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*THE HISTOGENESIS OF CARCINOMA.**

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ONE of the most disputed questions in pathology is that of the histogenesis of epithelium. It is a subject also of such great practical importance that it demands the most careful and systematic study. Embracing, as it does, the origin of the carcinomata and other neoplasms, as well as the *rationale* of perfect healing, it is at once apparent that an exceedingly wide field for research is opened.

Early in the spring of 1880, while working in the laboratory of Dr. H. F. Formad, the subject of the Histogenesis of Carcinoma was suggested as an excellent topic for research, and, acting upon the suggestion, I at once commenced its study.

It is but just that I here acknowledge my indebtedness for the extended facilities offered by the University of Pennsylvania to those undertaking original research, and also to Dr. Formad for his encouragement and valuable guidance in all matters pertaining to pathological investigation.

The first question which demands our attention is the much disputed one,—Does epithelium originate from pre-existing epithelial cells *only?* or, Can epithelium originate indirectly, through a series of metamorphic changes,—*e.g.*, from connective-tissue cells?

Certainly this is a subject on which hypothetical views are of no value whatever, and one in which proofs are absolutely demanded. In fact, the following concise statement expresses perfectly the principle upon which all such studies should be made: "Positive science rests upon facts as deduced from experiments, and through experiments and the microscope *only* can the true nature and etiology of tumors be settled."†

* Inaugural thesis presented to the medical faculty of the University of Pennsylvania, 1882.

† H. F. Formad, The Etiology of Tumors.

I.—HISTOGENESIS OF EPITHELIUM.

I divided my work into two parts, the first being devoted to the experimentation upon animals, studying upon them the development of epithelium in the healing of experimentally-produced ulcers; the second part being taken up with the microscopical study of cancers.

My reasons for this division were these: that in the formation of epithelium in the epidermis of healing surfaces a fair analogy is presented for the development of epithelium in cancers, and that if any source of the epithelial cells is proved in these experiments it also holds good for the source of epithelium in true cancers, and will unfold to us their histogenesis. I will now briefly narrate my experiments.

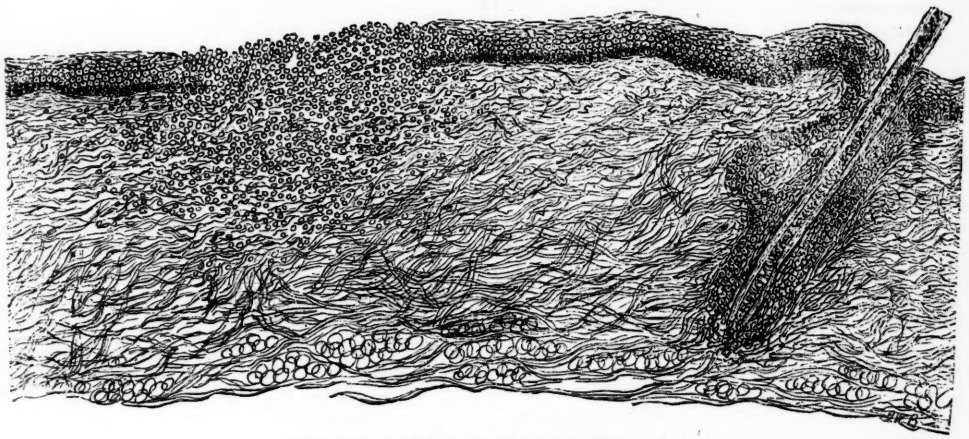
a. HEALING OF ULCERS.

Experiment I.—A large gray dog, from some unknown cause, presented an extensive and quite deep ulcerating surface between his shoulders. I carefully removed the entire ulcer, cutting down through the deep fascia, and prepared thin sections from different localities for microscopical examination. I more particularly studied the central portions of this granulating surface, for the sake of determining the nature of the so-called "islets of epithelium" which are said to be present in healing ulcers. On the peripheral portions of the ulcer the healing process was seen to have commenced, and there was no exception to this advancement from the margin in any portion. In the central portions, moreover, no sign of modification of the purulent granulating surface, which could give rise to the so-called "islets," could be observed. I carefully examined, under the microscope, with a magnifying power of four hundred and fifty diameters, as well as with lower powers, sections from every portion of the surface of the ulcer for any trace of epithelium, but could not distinguish anything but the almost uniform granulating surface made up of embryonic connective tissue.

Exp. II., March 19, 1881.—Black dog (my preference for a black animal will be obvious later on); removed from between his shoulders a piece of skin, including all the layers, and dissected the fascia beneath, thus laying bare the muscles; then taking some croton oil, I applied it to this raw surface, and by these means produced, in little more than twenty-four hours, a typical ulcer, three inches in diameter. In two weeks I removed from the animal the portion of tissue which included the site of the ulcer, and a marginal border of old skin. After hardening it for several days in alcohol, I prepared it for microscopical examination in the following man-

ner. Mounting the entire piece in wax, after it had hardened I cut through from top to bottom, and in this way procured sections which preserved both the surface and deeper portions of the ulcer and the marginal portions. Thus, in a prepared slide, the following order would be observed: old skin, new growth, granulating surface, new growth, and back again to the old skin. These sections were then stained by carmine and mounted in dammar varnish. Fig. 1 represents an accurate camera-lucida drawing of a perpendicular section through this healing ulcer. On microscopical examination, the section showed (Fig. 1, right side of drawing) the elements of old skin, the horny layer of epithelium, the *rete mucosum*, the pigment in great abundance surrounding the nuclei, a sebaceous gland and

FIG. 1.



Transverse section through healing ulcer (Exp. 2), × 40.

a hair; in short, the usual appearance of *derm* and *epiderm*. Towards the left (about middle of drawing) the appearance is different. Here the margin of the healing ulcer is seen; the elements of the cutis are substituted by hard dense scar-tissue, with no sebaceous glands, no hair-bulbs, and the pigment, although it was present, yet was gradually diminishing in quantity as it neared the central portion. Where the pigment met the granulating surface it could be seen proliferating and covering the ulcer for quite an appreciable distance. The horny layer of epithelium gradually disappeared as it neared the ulcerated surface, and young epithelium alone was visible up to the margin of the granulations. The pus-cells and young epithelial are in close contact, the epithelium seemingly pushing forward and away the nearest pus-cells, and advancing more and more towards the centre of the granulating surface.

Exp. III., March 22, 1881.—In a small black dog I produced a deep ulcer in the same manner as described in Experiment II. This time I allowed the healing to extend several days longer, and then removed the portion as in the preceding experiment. On preparing a slide for microscopical examination, the same relation of old skin and new growth was observed. The microscope revealed the peripheral growth of epithelium as in Experiment II., but in this case, although the epithelium in the central portion was wanting, the *pigment* had extended completely over the remaining part, thus entirely extending over the healing surface. This extension of pigment from without inward I would particularly emphasize, as it bears a very important part in the solution of the question under consideration.

Exp. IV., March 24, 1881.—Preparing an ulcerated surface as before on a large "coach-dog," I allowed it to heal over completely, and, after removing the portion, prepared some sections for microscopical examination. In these sections the complete epithelial covering of the ulcer was shown, the central portion, however, being very scantily covered with horny layers of epithelium. As in the other experiments, the absence of sebaceous glands and hair-follicles in the newly-healed portion was noted, the pigment in this instance extending entirely across and being not noticeably lessened in quantity in the centre.

Exp. V., April 9, 1881.—Taking another dog, I removed quite a large portion of skin and fascia,—over six inches in diameter,—and allowed the surface to heal entirely. This was then removed, and a microscopical examination showed the epithelium covering the whole area of denuded surface, and the horny layer of epidermis extending about two inches from the periphery.

Exp. VI., April 20, 1881.—Taking the same

animal as in Experiment II., I removed from the seat of my former experiment the new-growth portion, which had almost healed. Examining a microscopic section of this healing surface, it showed an appearance almost identical with Experiment II. A most beautiful and convincing proof of the advancement of the epithelial mass from the periphery is given in this experiment. The epithelium, looking like a solid cylinder, seemed to be really in the act of *pushing aside* the embryonic tissue on the granular surface, and advancing steadily onward.* (See Fig. 2.)

Experiment VII., September 17, 1881.—Taking a large brown dog, and removing as before a portion of skin and fascia, and applying croton oil, a deep ulcer was produced, which was allowed to heal to the same extent as in Experiment III. The appearance shown by a microscopical slide was so absolutely identical with that which was described in Experiment III. that any further detail would be superfluous.

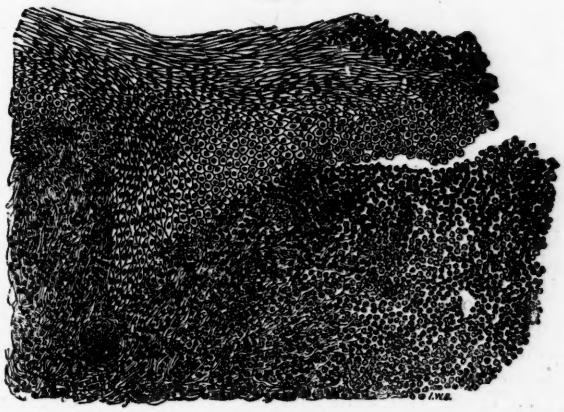
b. SKIN-GRAFTING.

In April, 1881, I three times attempted to study the growth of *skin-grafts*, but in each instance met with difficulty. The animals with which I experimented would in some way or other scratch or rub off the grafts, and no dressing that I could devise was capable of keeping them *in situ*. Although I am confident that the last two experiments were successful as far as the growth of the grafts was concerned, yet, as I could not definitely locate them, any description of the manner of growth of skin-grafts would necessarily be inaccurate. For facts I must therefore rely upon the literature of skin-grafting.

The first *attempt* at skin-grafting was in reality made by Prof. F. H. Hamilton, of New York, in 1847.† It was not until 1854, however, that he succeeded in *performing* the operation.‡ He stated his views as follows: "If the graft be smaller than the chasm which it is intended to fill, the graft will grow, or project from itself new skin to supply the deficiency." In another statement he implies his knowledge of the *border-growth* of new skin in an ulcer.

The operation was next extensively experimented with by Dr. J. L. Reverdin, in the hospitals of Paris, in 1869.§ He observed little epidermic islands which formed spontaneously on granulating surfaces, and reasoned therefrom that he might produce by a graft similar islands and thus hasten a cure.‖

FIG. 2.



Section through extreme margin of healing ulcer (Exp. 6), showing the advancement of a young stratified epidermal covering from the periphery inwardly (from left to right). Below is seen the granulation-tissue (right side) being gradually superimposed by the epithelial covering. Left side (below) shows cicatrization of the covered granulation-tissue. Camera-lucida drawing × 220, reduced one-half.

From the time of Reverdin's experiments up to the present date there has been a never-ceasing debate as to whether in skin-grafting it is the graft which *stimulates* the granulating surface of an ulcer to a transformation of its embryonal cells into epithelial,¶ or whether the cells of the graft actually proliferate.

Mr. Bryant** claims the latter to be the case, and cites as an evidence in favor of his view an experiment which he performed of grafting a piece of black skin upon a white man. As the ulcer disappeared, the black skin increased in size.††

Not wishing in this paper to go into too great detail on this particular branch of

* Thanks to the skill of my friend and colleague Dr. Blackburn, I was enabled to procure a perfect reproduction of this microscopical appearance. I am indebted to him also for the drawing for Fig. 1 in this study.

† Buffalo Medical and Surgical Journal, February, 1847.

‡ New York Journal of Medicine, September, 1854.

§ Bulletin de la Société de Chirurgie, 1869; Gazette des Hôpitaux, January, 1870.

‖ For an excellent résumé of the subject of skin-grafting, see Encyclopædia of Surgery, Ashhurst, vol. i.; also, Archives Gén. de Médecine, 1872, t. i. p. 277; Marc Sée, Gazette Hebdom. de Paris, Juillet 20, 1870; Philadelphia Medical Times, 1873, G. T. Maxwell.

¶ Marseille Médicale, dixième année, No. 7, 1873.

** Guy's Hospital Reports, 1872, vol. xvii. p. 237.

†† Dublin Journal of Medical Sciences, vol. lxi. p. 388.

the subject, suffice it to state that at present the operation has received the highest commendation from the most prominent surgeons, Profs. Agnew and Ashhurst, of the University of Pennsylvania, expressing their unqualified belief in its utility and practicability. The former, in speaking of the manner of growth of the graft, claims that the graft grows by a multiplication and proliferation of its own cells, yet it also seems to stimulate proliferation of the *skin-cells* surrounding the ulcer, so that the two send out cicatrizing arms towards each other, which, coalescing, divide the surface into smaller parts. He also deduces from Mr. Bryant's case the fact that "grafts lose none of their structural peculiarities by change of place."*

c. DEDUCTIONS.

Reviewing the preceding topics, I will arbitrarily divide the authorities on skin-grafting and the healing of ulcers into two classes, as follows:

1. Those who hold that the epithelial covering in the healing of ulcers may arise indirectly as a metamorphosis from granulation or young connective tissue.

2. Those who hold that the epithelial covering arises *only* from pre-existing epithelium of the borders of the ulcer, or from remnants of epithelium not destroyed by the ulcerative process.

The strong points of the authors of the first class, that which represents the epithelial covering as arising from the *connective-tissue corpuscles*, may be stated as follows: "When an ulcerated surface heals, although there is a slight amount of peripheral epithelial growth, yet the central portion of the granulating surface shows small *islets* of epithelium arising without any direct communication with the old epidermis, and it is these islands which give rise to the larger portion of epithelium, which eventually covers the granulating surface."

This argument is deficient. That these islets have no connective-tissue origin my preparations show very distinctly. Most certainly islets of epithelium *do* appear, *not* from any spontaneous generation or metamorphosis, but merely from some remnant of the *rete Malpighii*, one of the papillæ remaining intact beneath the granulating surface and thus forming a central point of departure. Even if the papillæ are removed, some of the remnants of the sweat-glands, which extend very deeply into the cutaneous tissue, may form a starting-point for an epithelium islet. In *no* instance where the deepest layers of the skin have been destroyed can positive proof be brought to show that these islets of epithelium originate from the connective tissue or from the granulations. In each of my experiments upon the healing of ulcers I have in vain sought for these isolated islands of epithelium; and certainly if they had been present they could not have escaped my careful search.

Another statement has been made, that on *large* ulcerated surfaces the epithelium from the periphery is insufficient to cover the immense surface of granulations. Yet it is well known that epithelium is one of the most rapidly growing of tissues,—*e.g.* the immense bulk and rapidity of growth of the carcinomata. Then my experiments show very clearly the peripheral growth of the epithelium, in every instance covering the denuded surface, showing the advance of the pigment towards the centre, its proliferation into the healing portions, the horny layer of epithelium advancing and finally covering the whole surface from periphery to centre. All these facts serve to show how untenable is the ground of those who claim a direct transition of the granulation-tissue, insularly, into epithelium.

II.—PATHOGENESIS OF EPITHELIUM, WITH SPECIAL REFERENCE TO THE FORMATION OF CANCER.

a. VIEWS OF AUTHORS.

The theories in regard to the origin of epithelium in cancers are quite numerous and widely divergent. In this part I will first quote, as correctly as possible, the several authorities and their views on the subject, and then conclude with my personal observations.

First view.—Epithelial cells may arise from connective-tissue corpuscles, the connective tissue undergoing a change to embryonic tissue, and from thence to epithelial. Rokitansky,† Virchow,‡ Förster,§

* Surgery, D. Hayes Agnew, vol. i. p. 126.

† Hdb. d. Path. Anat., Vienna, 1855.

‡ Loc. cit., und Würzburger Verhandlung, Bd. i., Cell-Path., 4te Aufl. p. 565.

§ Hdb. d. Path. Anat., Allgemeinen Theil, 2te Aufl., 1863.

Müller,* Woodward,† Classen,‡ Köster,§ Gusenbauer,‖ C. Weil,¶ Stricker.**

Second view.—Many cancers originate from the endothelium of the lymphatics. Köster.††

Third view.—Cancer-cells originate from a transformation and migration of white blood-corpuscles. A. Classen,‡‡ J. J. Woodward.§§

Fourth view.—There are those who, although admitting an epithelial origin of carcinoma, yet claim for some of the glandular cancers a different origin. Thiersch,‖‖‖ although the first advocate of the epithelial origin of surface-cancers (epitheliomata), still admits for other cancers a possible origin from connective tissue. Neumann,¶¶ Klebs,*** Rindfleisch,††† Mayor,‡‡‡ Remak,§§§ Ecker,‖‖‖ Hanover,¶¶¶ Führer,****Recklinghausen, ††††Wagner,‡‡‡‡ Cohnheim,§§§§Cornil and Ranvier.‖‖‖‖‖‖‖

Fifth view.—Cancers arise only from pre-existing epithelium, and in the embryo the certain stratum which is designed for the production of epithelial tissue is the source from which all epithelium is subsequently derived. Billroth,¶¶¶¶ Lücke,***** Rudnew,††††† Waldeyer,‡‡‡‡‡ Samuel,§§§§§ Birch-Hirschfeld,‖‖‖‖‖‖ Perls.¶¶¶¶¶

There would be much less discrepancy in certain statements of some of the authorities of the connective-tissue and other views outside of the epithelial, if they would be more definite in their expression of what they mean by epithelium and what they mean by endothelium, and, again, whether or not they class alveolar sarcoma with the cancers. This is a source oftentimes of great confusion and error. Others, again, are far "behind the times" in their views upon the derivation and the nomenclature of tissues. As a striking example of the latter fact, I will quote the following from Prof. Stricker, who is a firm believer in the connective-tissue origin of cancer, and at the same time will show that his argumentation is altogether erroneous. Stricker says,****** "There is a form of heterology which differs from all others. This form is peculiar to malignant tumors, and has particular reference to their histogenesis, when from the structures of the middle layer of the *blastoderm* epithelial cells are formed." He then goes on to say, "The histogenesis of epithelium is *not well understood* by the pathologists who claim an epithelial origin for all epithelium." He (Stricker) asserts that epithelial cells are formed *only* from the outer and inner layers of the blastodermic membrane. (!) He also denies that the origin of epithelium—*e.g.* in the healing of ulcers—is any proof of the epithelial origin of cancer. In a brilliant manner, this eminent pathologist thus proceeds: "I have seen several instances of carcinoma occurring in the brain and other organs where epithelium *is not found.*" Most assuredly Prof. Stricker is here in error, as it is a known fact that we *do* find true epithelium in the brain, in the *pituitary body*, in the *pineal gland*, in the *cerebro-spinal canal*, etc. Stricker also claims that "he has seen glandular acini transformed from *muscular* tissue, (!) the epithelial cells showing the striated appearance of the muscular cell from which it was derived." (!) The way in which this transformation occurs he does not describe, and he bases the transformation merely upon *his* interpretation of the microscopic picture, and "trusts that these conclusions will not be disbelieved, as he examined *so carefully* the preparations."

It would be mere folly to accept such statements as truths, as they are contrary to the laws of physiology and pathology; yet he states, in a decidedly dogmatic manner, at the end of his paper, "Thus I have conclusively [?] shown that carcinoma may be derived from *any* of the three layers of the blastoderm."

It is certainly true that carcinomas may be derived from "any of the three layers of the blastoderm;" but, in reference to

* Jenaische Naturwissenschaftliche Zeitschrift, Bd. vi.
† Toner Lectures, Lect. I., 1873.
‡ Virchow's Archiv, Bd. l. s. 56.
§ Virchow's Cell.-Path.
‖ Archiv für Klin. Chirurg. ¶ Med. Jahrbücher, 1873.
** Vorlesung. über Allgemein. und Exp. Path.
†† Loc. cit.
‡‡ Die Entwickelung der Carcinome und Sarcome, Würzburg, 1869. §§ Loc. cit.
‖‖ Der Epithelialkrebs, Leipzig, 1865.
¶¶ Habil Schrift, 1869.
*** Hdb. der Path. Anat., 1868–71.
††† Lehrbuch der Path., ate Aufl., 1870.
‡‡‡ Thèse, Paris, 1845; Bull. de la Soc. Anat., 1844, p. 218.
§§§ Deutsche Klinik, 1854.
‖‖‖ Archiv für Physiol. Heilkunde, 1844.
¶¶¶ Müller's Archiv, 1844, und Das Epithelioma, Leipzig, 1852. **** Deutsche Klinik, 1851, p. 365.
†††† Mon. f. Gebrtsk., 1861, vol. xvii. p. 322.
‡‡‡‡ Loc. cit. §§§§ Allgemeine Path., 1877.
‖‖‖‖ Pathological Histology.
¶¶¶¶ Allg. Chirurg. und Virchow's Archiv, 1867 und 1872.
***** Geschwülste in Pitha, Billroth's Hdb. der Chirurgie.
††††† Cf. Jahresbericht von Virchow und Hirsch, Ref. über Path. Anat., 1870.
‡‡‡‡‡ Klinischer Vorträge, herausgegeben von R. Volkmann, No. 33. §§§§§ Allgemeine Path., 1878.
‖‖‖‖‖ Pathologische Anat., Archiv d. Heilk.
¶¶¶¶¶ Allgemein. Path., 1877.

****** Loc. cit.

the middle layer, it is *not* the connective or muscular tissue which gives rise to carcinoma, but it is the *epithelium* which also normally is found in this layer. Stricker seems to have overlooked the fact that the epithelium of the *kidneys, supra-renal bodies, testicles, uterus, ovaries, Fallopian tubes,* etc., is formed from the *middle* layer of the blastoderm. This was proved several years ago by Kölliker, Balfour,* Haeckel, and others.

But such oversights may happen to any one. It is particularly the case with specialists thus to figure out certain theories, without keeping pace with the progress of those elementary sciences which should form the basis of the branch,—in this case embryology.

b. PERSONAL OBSERVATIONS.

My own microscopical studies of sections of true carcinoma of the most varied kind, and in different stages of development, have taught me that the epithelial cells of these new formations are derived exclusively *from* epithelium.

At first I intended and thought it necessary to give minute descriptions of each separate cancer,—*i.e.*, of the cancers in different localities,—as nearly all of them present a more or less modified appearance, and every one who has studied cancer-sections is struck with the somewhat remarkable difference in the microscopical picture which cancers from different localities present. But soon I learned that this difference was only an apparent one, and that the general construction was absolutely the same in all carcinomata, whether it be a squamous surface cancer or one built up of cylindrical epithelial cells; or, in the glandular cancers, of either the hard or the soft variety. The peculiar shape and size of the cancer-cylinders are altogether dependent upon the size and shape of the lymph-spaces into which they penetrate, and upon the density of the tissue in which they are situated; and, finally, the variety of epithelium and the rate of growth condition certain modifications. Other apparent differences are incidental and dependent upon collateral influences, such as secondary inflammatory changes and all the different metamorphoses which entail certain insignificant modifications of that anatomical type.

I have convinced myself of the truth of the above-stated facts, so persistently denied by some high authorities,—viz., that all cancers grow and develop according to the same principle and laws, and that all represent a perfect unity in the anatomical type of their structure.†

My investigations, therefore, have induced me to put myself on the side of those who believe in the exclusive origin of cancer from epithelial cells, for in vain have I looked for the possible participation of elements other than epithelial in the formation of true cancer, as I will detail later.

I will now describe my microscopical preparations, having selected for the purpose the scirrhous carcinoma of the mammary gland, a representation of which is given in Fig. 3, showing beautifully its immediate histogenesis from epithelium. The specimen was taken from a moderate-sized mammary cancer of about one year's duration, from a woman aged 40. The tumor was removed by Prof. Agnew, in the University Hospital clinic, about two years ago, and had been thoroughly studied, being used by Dr. Formad in his demonstrations ever since. A thin section stained by carmine and mounted in dammar shows the following (see Fig. 3). A few normal glandular acini are seen in transverse section, the arrangement and relation of the cells in one of them appearing to be perfectly normal. The cells of the other acini are somewhat enlarged in size, and completely fill the lumen. Near the normal acinus are seen a few others, which do not present this appearance, the cells not resting upon the basement membrane, and, although completely filling the lumen, are somewhat retracted from the basement membrane. This latter also seems to be entirely absent on one side of the acinus, as if it were ruptured. However this may be, the cells are distinctly seen to have travelled out of the acinus and to have proliferated and penetrated into the surrounding connective tissue: so that the mass of epithelium filling one of the lymph-spaces, thus forming a cancerous cylinder, is directly continuous with the epithelial mass contained within the glandular acinus. Alongside of the young cancerous cylinder just described are seen a number of others, made up of the usual epithelial masses, but in which no connection with

* Quarterly Journal of Microscopical Sciences, vol. xviii., 1878.

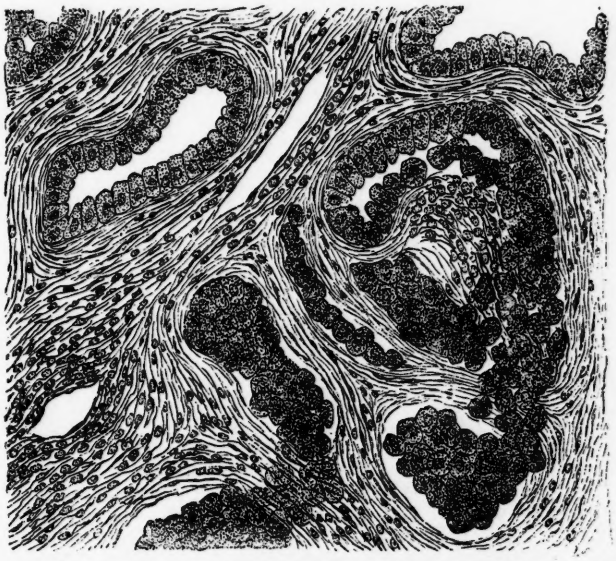
† It is beyond the scope of my present work to describe here the macroscopic appearances of the individual cancers.

normal glandular acini can be traced. Appearances like those described are seen in many portions of the growth, so that the direct origin of these cancerous cylinders from the epithelial cells of the normal glandular acini can be justly inferred. A break in the integrity of the basement membrane in certain portions of the glandular acini is also distinctly demonstrable. It is from such ruptured openings of the basement membrane that the proliferating epithelial masses escape, as in no instance where the basement membrane is found intact can any cancerous cylinders be observed to be starting from the acini. The spaces into which the cancerous cylinders penetrate correspond exactly in shape and direction to the lymph-channels of the normal mammary gland.

In sections of cancer in which the epithelial cylinders are cut in the most varied directions (in respect to the course of the lymph-channels which they fill), the *connective tissue of the alveoli* represents the walls of these lymph-spaces.

Through Dr. Formad's laboratory demonstrations I had been long ago acquainted with the fact that the alveolar appearance in sections of cancer, as represented in books, and which is regarded as a criterion for this new growth, is only an artificial picture, and does not represent the true anatomical construction of a cancer. In reality the appearance of the alveoli, which may vary from round to a long elliptical shape, is due to the transverse section of the lymph-channels, which in cancer are filled with the epithelial cell-masses. The epithelial cells which lie in these alveoli do not stand in any relation at all to the walls of the spaces. As has been stated before, the cells are always seen somewhat retracted and heaped together in the middle of the alveoli, and the endothelial cells which cover the connective-tissue trabeculæ of the alveoli are seen everywhere intact, as can be easily seen in a preparation stained with nitrate of silver, and do not show any sign of proliferation.

FIG. 3.



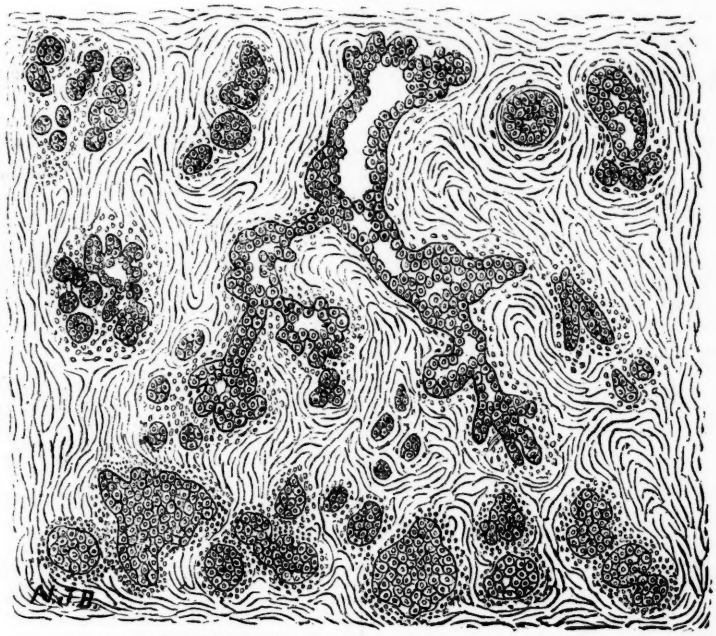
Section of a mammary cancer (case of Prof. Agnew, University Hospital Clinic), showing direct origin of the cancer-cylinders (see lower and right portion of drawing) from the epithelium of the normal glandular acini (upper portion) through destruction of basement membrane. Lymphoid infiltrations around blood-vessels. (See text.) $\times \frac{400}{1}$.

Around the blood-vessels, which here and there are seen running through the trabeculæ of the alveoli, there is seen in several places a proliferation, or, more properly, an infiltration, of lymphoid cells. (See Fig. 3.) I have never seen in my preparations these young cells in any other location than within the substance of the trabeculæ which forms the alveolus,—*i.e.*, in the adventitia of the blood-vessels,—and in no place could I discover them inside the alveoli or in connection with the epithelial cells. This is also shown in the reproduced drawing of Waldeyer (Fig. 4), who also properly seems to deny any relation of the lymphoid infiltrate with the cancer-cylinders. This young lymphoid infiltration around the adventitia of the blood-vessels appears to me to be wandered-out white blood-corpuscles. In some places they are seen to have undergone decided modification in size, becoming spindle-shaped, stellate, and modified in other ways in their transition to the formation of connective tissue. I was unable to discover, however,

any trace of transformation into epithelial cells, or any "wandering" of these lymphoid cells into the lymph-spaces, or into the alveoli containing the epithelial cylinders.

From the preceding studies and accompanying drawings, it is seen that the epithelium of the cancerous bodies must be exclusively derived from epithelium; and

FIG. 4.



Mammary cancer, after Waldeyer (*loc. cit.*), showing the independence of "carcinomatous bodies" from the lymphoid infiltrate around them.

I have studied hundreds of sections of cancers from different locations, and this description of the above specimen applies, with only slight modification, to all varieties of this new growth.

From the above description the general minute anatomy of a cancer may be summed up as follows. A system of channels, produced by the distended lymph-spaces of the connective tissue of a part, is filled with epithelial cells, which had taken their departure from some epithelial structure, and which grow by a proliferation and multiplication of their own. The epithelial elements thus more and more distend these spaces, and extend by penetration into additional ramifications of the lymph-spaces. These channels intercommunicate in precisely the same manner that they do before they are filled with epithelium, and it is the transverse and oblique sections of these channels which give rise to the peculiar alveolar appearance of sections of cancer under the microscope.

I firmly believe that the views as propagated by the authors of the connective-tissue origin of cancer are thoroughly incorrect.

The same may be said of the modifications of the connective-tissue theory,—those relating to the origin of cancer from endothelium or from migrated white blood-corpuscles.

The reasons for these assertions may be summed up as follows:

1. It has never been proved that any true carcinoma originated heterotopically,—*i.e.*, took its origin from any other tissue than epithelium.

Careful study has shown the direct transformation of normal glandular acini into cancer-cylinders,—*i.e.*, into free epithelial cells not restricted by any normal boundaries. This cannot be disproved. The following objection is made by opponents of this view: "If carcinoma develops only from epithelial tissue, how is it that we have *primary growths* affecting the lym-

phatic glands and other organs destitute of epithelium?"

In answering this perfectly fair question, a very important clinical fact should not be overlooked: we never have cancer of lymphatic glands unless carcinomatous change exists in some epithelial gland elsewhere in the body, however insignificant it may be, or has existed previously. Tumors, including cancers, occasionally heal spontaneously, the healing or cicatrization "squeezing the cellular elements to death," leaving merely a dense scar-tissue. Now, recalling to mind the great part which *metastasis* plays in disseminating these epithelial elements, why cannot we with perfect propriety oppose to this question another,—"Is it not rather probable that the cancer-elements have been *deposited* in the lymphatic glands or other organs by metastasis, thus *simulating* a primary growth, and yet the original cancer (which has been, for instance, situated in the mammary gland) have undergone this cicatricial change, absolutely showing no sign of malignant growth?"

Again, the objection implies the oversight of another important clinical truth: "A primary cancerous growth is *never* encapsuled." Yet we find in all the so-called "primary growths of lymphatic glands" a distinct capsule surrounding the tumor. It is therefore obvious that the objections to epithelial origin of glandular cancers are untenable; and until a primary true cancer in organs other than epithelial is distinctly demonstrated, the connective-tissue origin of these growths must be considered fallacious.

The same may be said of the colloid cancer of the peritoneum. Here, too, there appears to be an inconsistency with the proposition of the exclusive epithelial origin of cancers, as the peritoneum is lined only by endothelial cells, which are merely modified connective-tissue cells. The explanation given in connection with the preceding argument holds good also in this instance. Besides, the records of the cases of colloid cancer of the peritoneum are highly imperfect.

2. In favor of the connective-tissue origin of cancer is also brought forward the observation of young broods of lymphoid cells infiltrating the cancerous structure, or at least it is asserted that a part of the cancerous cylinders is formed from the cells composing this lymphoid infiltration. The observers who advocate this view say that it is impossible to explain the appearance of these broods of young cells unless their participation in the cancer-formation is admitted.

I fully agree that they do take a part in the formation of these neoplasms, but only in the formation of the connective-tissue reticulum, and *not* of the cancer-cylinders. My preparations distinctly show that these young broods of lymph-cells are seen only around the blood-vessels in the trabeculæ of the alveoli, and in the surroundings of the cancer; but they never enter the larger lymph-spaces,—*i.e.*, those which form the lumen of the cancer-alveoli. Besides, I have observed that they only undergo modifications in shape, which lead to the formation of connective tissue, and never show any tendency to the formation of epithelial cells.

Again, this lymphoid infiltration does *not* form the first step in the morbid process, as Woodward claims,* but it is a secondary result due to the inflammatory changes in the connective tissue excited by the invasion of the epithelial cells. A careful study of these young broods of lymphoid cells shows that they are designed to add to the bulk of the connective tissue, which is essential as the frame-work of the cancer. On the other hand, they also constitute the material for a development of those connective-tissue masses in the central and older portions of the tumor, which accomplishes the cicatrization of the cancer, thus occasioning *the rare healing* of cancers.

3. The view of Köster that cancers originate from the endothelium of the lymphatics at first sight seems quite plausible, especially as the cancer-cylinders are always found resting and extending in the lymph-spaces. Yet this view is easily disproved, if cancer specimens are practically and carefully examined. Many observers coincide in the statement that the endothelial cells of the cancer-stroma are always found to be intact, and, in fact, *no* one has seen them proliferating. The endothelial lining of the alveoli is seen to be perfect in several of my specimens stained with nitrate of silver.

There is a class of new formations, however, which closely simulate true cancer,—viz., the large round-celled sarcoma and the alveolar sarcoma. These are eminently

* Loc. cit.

connective-tissue growths. They develop mainly from the endothelium of the lymph-spaces, and may be properly designated *endo*-thelial cancers, or endotheliomata, as Dr. Formad calls them. Now, it is possible that Köster classes, as some other pathologists do, these tumors with the cancers, and from their histogenesis draws conclusions for the origin of true carcinoma. This would be certainly erroneous, as, beyond a mere histological resemblance to the unpractised eye, these neoplasms have nothing in common with cancers.

In conclusion, I will summarize the essential points in favor of the exclusive epithelial origin of cancers:

1. Primary true cancers are found only in locations where there is pre-existing epithelium.

2. No cancer has been proved beyond doubt to have originated heterotopically.

3. The cicatrization of cancers explains the young connective-tissue infiltration.

4. Young connective-tissue cells or white blood-corpuscles never being seen inside the alveoli.

5. The independence of the epithelial cancer-cylinders from the connective tissue.

6. The intactness of endothelial ensheathments of connective-tissue trabeculæ forming the alveoli.

7. The mode of development and concentric growth of *secondary* cancers.

8. The proliferating power of epithelium *normally* is greater than that of any other tissue.

9. The results of my experiments showing that the epithelial covering in the healing of ulcers is exclusively derived from the epithelium of the border, a most conclusive proof of this being *the gradual advancement of the pigment from the borders of the healing ulcer;* this fact, by analogy, forming a strong testimony in favor of the epithelial origin of cancer.

10. The transformation of connective-tissue cells into epithelial cells, in extra-uterine life, does not occur, physiologically or pathologically.

REFILLING OF PRESCRIPTIONS.—In Wisconsin any druggist, apothecary, or vender of medicine is liable to a fine of ten dollars and costs for every time he is convicted of refilling a prescription marked "No Duplicate."

THE INSUFFICIENCY OF THE LAWS GOVERNING COMMITMENTS TO ASYLUMS FOR THE INSANE: WITH REPORTS OF CASES.

BY BOARDMAN REED, M.D.,

President of the Atlantic County Medical Society; Physician to the Seaside House for Invalid Women, Atlantic City, N.J.

THE instances lately brought to light of sane persons having been committed to asylums for the insane, and in some cases imprisoned there for years without being able to communicate with their friends outside, have awakened the attention both of the medical profession and of the general public. Making all due allowances for the sensational coloring so often given to such topics in the daily papers, there has been gradually accumulating a large mass of evidence corroborative of the opinion that the laws governing the commitment of persons alleged to be insane are in many of the States seriously deficient. The certificate of any two physicians whom a magistrate will consider "respectable" (or of one physician in New Jersey) is accepted as sufficient evidence upon which to deprive a citizen of liberty. They may be mere medical fledglings just out of college and having no practical acquaintance whatever with insanity. In some of the States, including Pennsylvania, one of those certifying may be a dentist and the other, say a chiropodist, if only at some time they have received the degree of doctor of medicine. Nay, more: unless the committing magistrate chance to be both intelligent and scrupulous, they may be the most unprincipled of quacks, whom a few dollars will bribe to perpetrate any enormity.

The extraordinary power thus vested in physicians has been thrust upon them without the desire or consent of the profession, and entails a responsibility often most unwelcome and embarrassing. Indeed, there are two classes of the community who, above all others, should insist upon such modifications of the laws as would require a thorough investigation before some respectable tribunal of every formal charge of insanity, to the end that no sane person could ever be committed to an asylum for the insane. These classes are (1) all conscientious and reputable physicians, who would scorn to give a certificate of insanity without being fully convinced of its

truth; and (2) all honorable and high-minded asylum superintendents, who, regardless of pecuniary considerations, would not knowingly retain in confinement a sane person.

The laws upon this subject, as well as the ideas prevalent among the people, are evidently based upon the theory that any doctor should be able, after one or two short interviews with a suspected person, to pronounce infallibly upon the question of his or her sanity. Every medical man knows the fallacy of this notion, and that there are no positive rational or physical signs by which even an expert can always certainly decide in the milder forms of mental disorder, without a prolonged study of each case under varying circumstances.

On this head Griesinger* uses the following language, which is in itself a sufficient commentary on the present method of making commitments to asylums in this country:

"When the mental faculties in a man are in a state of morbid disturbance, this may in some cases be easily and by any layman distinguished; in many other cases the decision on this point is very difficult, and requires prolonged observation and intelligent acquaintance with the science of mental disease. I have had submitted to me opinions of special medical psychologists who after six months' observation of a patient in their asylum could not come to a decision whether they should declare him insane or not; and older and recent cases have been published (Reiner Stockhausen), on which the opinions based upon long observation, instituted *ad hoc*, of eminent psychologists have been quite contradictory. . . . We see, likewise, how very inadmissible in many cases is the demand frequently made on the medical jurist (by the jury) that he, after one or two short examinations of the prisoner, should give his opinion, when sometimes the time allowed is insufficient to enable him to acquire a full knowledge of the subject of investigation."

This opinion of the distinguished German alienist is entitled to especial weight, as showing the absurdity of expecting even the experienced practising physician to decide off-hand every question of alleged insanity submitted to him.

The laws of New Jersey and Pennsylvania regarding commitments to lunatic asylums may be thus summarized. In both States there have been passed at different times various statutes upon this subject providing for more or less thorough investigations by courts or commissions in the cases of alleged lunatics charged with crime, and in the cases of the indigent insane.

In Pennsylvania a statute approved April 20, 1869, contains the following, which is the law under which most commitments in that State are now made:

"Insane persons may be placed in a hospital for the insane by their legal guardians, or by their relatives or friends in case they have no guardians, but never without the certificate of two or more respectable physicians, after a personal examination made within one week of the date thereof; and this certificate to be duly acknowledged and sworn to or affirmed before some magistrate or judicial officer, who shall certify to the genuineness of the signatures and to the respectability of the signers."

Another section of the same act imposes a fine of one hundred dollars upon any officer or employé of an asylum who delays or interferes with letters from an inmate to his or her counsel.

Still another section provides for a commission of three persons, including one physician and one lawyer, to investigate any complaint in writing to the effect that some person is wrongly confined as a lunatic. This is an important provision, which may be invoked to prevent the indefinite continuance in asylums of persons improperly confined there.

The New Jersey law is even less satisfactory. The act establishing the State Lunatic Asylum at Trenton, approved February 23, 1847, contains numerous sections relating to the admission of insane paupers, criminals, etc., which are sufficiently stringent for the most part. It provides, also, that no person shall be admitted as a patient except upon an order of some court, or upon the request in writing of any relative or friend, supported by the certificate under oath of two respectable physicians, dated within one month, to the fact of his being insane.

Like the Pennsylvania law, this does not require that either of the physicians shall be engaged in the practice of medicine at the time, nor establish any test of their "respectability" beyond the statement of the magistrate before whom the oath is taken. It does not require (un-

* Mental Pathology and Therapeutics. Wm. Wood & Co., 1882.

like the Pennsylvania law) that either of the physicians shall have previously made a personal examination of the alleged lunatic, or shall even have seen him.

Yet this section regarding admission to the New Jersey State Lunatic Asylum seems to have been considered unnecessarily strict, for three years later a supplement to the act was passed, providing that "hereafter the certificate of *one* respectable physician shall be sufficient to authorize the admission of private or pay patients." Nothing is said here of an oath, and the implication is that it is no longer necessary.

Thus, in New Jersey it is now very easy to get a person into an asylum; but the writer is unable to learn that any statute has ever been enacted providing for getting one out again when wrongly incarcerated there, though of course there are remedies at the common law for such a case. These remedies, however, are inoperative unless the incarcerated person can command money or has the co-operation of zealous friends; and it does not appear that there is any law to protect him in his right to unrestricted communication by letter with his counsel or friends.

A copy of the New York statutes is not at hand, but they are believed to make the admission into asylums quite as easy as do the laws of Pennsylvania. In the majority of the Eastern and Middle States, at least, no legal investigation is provided as a preliminary to the admission of "pay-patients" into asylums for the insane.

The loose practice of permitting a magistrate to consign any person to that form of prison euphemistically termed an asylum, without a trial, upon the wholly unsupported statement of one or two physicians, is evidently a relic of the times when life and liberty were held much cheaper than they now are.

It may have grown out of the legal principle which debars one who is *non compos mentis* from many of the rights and privileges carefully guaranteed to other persons, and decrees that he cannot commit a crime, make a will, or execute a contract of any kind. But it was a strange omission which provided no adequate means of defence at the outset against the danger of being wrongly placed in this class.

Persons charged with any offence against the laws, from the slightest misdemeanor to the gravest crime, are afforded every opportunity to confront their accusers, and establish, if possible, their innocence before sentence can be passed upon them. But the man accused of insanity is threatened with a confinement only slightly more tolerable than that which awaits the majority of convicted criminals, and should have his reputation and liberty quite as strongly hedged about. If it is charged on the oath of impartial witnesses that he is actually violent, or if competent physicians certify that he is liable to do bodily harm to himself or others, he should be temporarily restrained pending the legal investigation of his case,—*i.e.*, until he could have a trial before a judge, at least whenever demanded by him (if not a jury as well), with the right to be represented by counsel and to have witnesses called to testify in his defence as to questions of fact. In clear cases of insanity the commitment to an asylum would be as certain under such a procedure as under that now established. In doubtful cases the accused, as in criminal proceedings, should have the benefit of the doubt. Persons confined as lunatics have theoretically the right to a trial under the *habeas corpus* act, but practically this affords no protection when a man's family have decided against him and deprived him at once of both liberty and property by the summary process now permissible. Without friends and money, or the right to communicate freely with the outside world, the person wrongly confined may be as helpless to set the machinery of the law in motion as the most confirmed lunatic. The full legal investigation should be necessary in every case, and *before* the final commitment as an insane person.

Speaking of this subject, Mr. George L. Harrison, long president of the State Board of Charities in Pennsylvania, says, in the course of a singularly able and comprehensive article on the "Care of the Insane," in his work entitled "Chapters on Social Science:"

"We do not believe that in our State there is at this time much real danger in this behalf to the freedom of any sane person, for we happen to be favored with enlightened experts in each of the important institutions, private and public, of the State, who would undoubtedly take means to redress a wrong perpetrated either by ignorance or design. Still, it is necessary to provide for contingencies; and if the medical test is even uncertain, the importance of amending it will be

admitted without reserve, for the authority is final when the requirements of the law are even formally complied with, and the 'adjudged' lunatic must be received into the lunatic wards."

It may be granted that in Pennsylvania there have been fewer abuses of this kind than in some of her neighboring States, and doubtless for the reason stated by Mr. Harrison,—to wit, the high character of the gentlemen generally in charge of the institutions. But the protection of sane persons against the possibility of being adjudged insane and incarcerated in a form of prison should be secured by some more certain dependence than the probability that the superintendent of the establishment to which any such victim of lax laws may be committed will ultimately ascertain that a mistake has been made, and have it corrected.

No doubt, at most reputable institutions for the care of the insane, the liberation of a person wrongly committed would sooner or later be effected by the superintendent or physicians in charge; but, supposing it were certain that the asylum authorities would always ascertain that such a person was not really insane, it might well require weeks in some doubtful cases for them to decide positively as to this point, and meanwhile an injustice would continue, which might work irreparable harm to the reputation and business or property of the individual thus confined.

Another defect in the law as it now stands in most if not all of the States is that it permits the incarceration of a class of persons who, though technically of unsound mind, are harmless and inoffensive.

I grant that some monomaniacs, and some others, who, while appearing at most times entirely rational, have homicidal, suicidal, or other destructive impulses, may require to be restrained for the safety of society or themselves. But such dangerous forms of mental disease can be distinguished by competent alienists from the milder types, so that there is no necessity for condemning all these unfortunates alike to the experiences of asylum life,—experiences which the most enthusiastic friend of these institutions will scarcely deny are usually the reverse of cheerful, and are likely to prove anything but curative to a sensitive and delicate mental organization. Constant association with minds worse disordered than their own we should expect, *a priori*, to intensify and confirm the lighter cases, and very often this is just what actually results.

The following case, which came under my personal observation, shows how easily under present laws a sane man may be consigned to an asylum for the insane:

Case I.—An intelligent and scholarly gentleman was sojourning in Atlantic City during the winter months on account of a tendency to pulmonary disease. He was part of the time under my professional care, and I had frequent opportunities of conversing with him. Nothing in his manner or conversation ever awakened the slightest suspicion of mental aberration. Those who were the most intimately associated with him here for several months never saw anything amiss with his mind. Indeed, I regarded him as possessing an exceptionally calm and well-balanced mind. A striking evidence of this was afforded me when, early one winter morning during his stay here, my house was on the point of catching fire from burning buildings adjacent. The fire-company said it would burn anyway, and would do nothing for it. The excited crowd which was gathered around did not know what to do. At this juncture this gentleman came forward and suggested that the house might yet be saved by hanging carpets along the exposed sides and keeping them wet by having relays of men carry buckets of water to the roof. He himself, with the utmost coolness, superintended the work, and as a result the house was saved. During one of his occasional visits to his home in a suburb of Philadelphia, this same gentleman was called upon by a physician of the neighborhood, and a few hours later, while walking on the street, was arrested, hustled into a carriage, and taken to the State Hospital for the Insane at Norristown. Fortunately, he fell into kindly hands there, and succeeded in getting a letter to one of his friends here. Energetic measures were resorted to in his behalf, with the effect of ultimately securing his release after an incarceration of about one month. His mental soundness was so unmistakable that even the asylum authorities, as I am informed, admitted to him that they found in him no evidence of insanity. It must require an unusual degree of mental equipoise to submit, without even a show of excitement, to such an experience; but my patient bore the ordeal in a philosophical manner, employing his time in studying the various interesting features of the institution and its management. I saw him upon his return here immediately after his release, and found him in no wise changed by his singular adventure.

Numerous similar cases, only far more aggravated, could be adduced here; but I have no personal knowledge of the facts

concerning them, and accounts of them have already appeared in the public prints.

The remainder of my cases illustrate the needlessness and inhumanity of consigning to asylums those who, though somewhat unsound mentally, are in no sense dangerous persons. The incarceration of such individuals against their wills, while it does less violence to our sense of right than the similar treatment of the indubitably sane, is at least open to serious question. In order to justify such a procedure in cases of the class now referred to, it ought to be clearly shown that they cannot be properly cared for in any other way, or else that there is a better prospect of curing them in an asylum than out of one.

It is not claimed that these are average cases of insanity. The majority of persons who are committed to asylums for the insane are doubtless worse than any of those referred to in the following reports, and find their proper place in well-conducted institutions of the kind. But among the minority of persons so committed there are unquestionably many who would be better off outside.

Case II.—This was a feeble old lady, wife of a prominent Philadelphian. She had long suffered from certain physical infirmities, and finally her mind gave way. She drifted into a form of melancholia with very fixed delusions. She was sent to Atlantic City, and placed in a quiet cottage boarding-house under my professional care. Her family physician, Dr. Charles Hermon Thomas, saw her with me at frequent intervals. For a time the improvement was so slight as to be scarcely noticeable, and the friends were almost despairing. The care of her was a great burden to all concerned, and they were beginning to listen to the arguments of those who said the best place for her was an asylum. Finally, after several months of patient treatment, aided by all the kindly and cheerful influences that love and wealth could surround her with, reason returned, and for some time before her death she was able to enjoy with unclouded mind the society of her family and friends. Nothing can be more certain than that if consigned to any ordinary insane asylum, in her feeble condition, such a recovery of reason could not have happened.

Case III.—A young lady, highly cultivated and accomplished, became afflicted with a form of decided and chronic insanity. She resided with her family in a Western city, and some years ago was brought to Atlantic City in the hope that the invigorating effect of the sea-air might assist in restoring her reason. Considerable improvement resulted, and, thus encouraged, her parents have since kept her here a large portion of the time, winter and summer. Under the constant care of a trained nurse, she goes about daily in the streets and to public places, while here, without danger to any one. Her paroxysms of excitement are becoming further apart. She is pursuing her musical studies, and gaining slowly, but steadily, in mental tone. This was originally a most unpromising case, such as usually grow worse in asylums.

Cases IV. and V.—These may properly be considered together. One was a refined and delicate lady, married to a coarse and dissipated, though wealthy, husband. They came from New England, and were spending the summer here in a private cottage. I was called to see her one night, and found her in a paroxysm of violent excitement bordering on mania. She had a number of such attacks, and in the intervals, though mentally clear, suffered from profound depression. Subsequently she procured a separation from her husband, and entirely recovered.

The other was a somewhat similar case in the beginning. I was called by a New York gentleman to see his wife, who, he said, was at times insane. They had come for a short sojourn here during the winter season. I found the lady greatly excited and trembling as if with fear. She declared that her husband had a woman concealed about the room, and begged me, in piteous terms, to protect her. Something about her face told plainly a story of unhappiness, the cause of which one accustomed to judge of human nature could not help suspecting. I prescribed a sedative, and saw no more of her. Some weeks after their return home I was requested by letter to join a New York physician in a certificate of insanity in the case of this lady, for the reason that it would be very difficult for another medical man to see her in a similar paroxysm. I declined to give a certificate without seeing her further. Most likely she has found a home in some asylum, and, if so, I fear she is likely to remain there indefinitely. Confinement in such institutions is a sorry cure for marital infelicities and the unbalanced minds resulting therefrom, but it is, unfortunately, in many cases the only remedy applied.

Case VI.—This was a Southern lady afflicted with melancholia and certain distressing delusions. She had been under the professional care of Dr. S. Weir Mitchell in Philadelphia, and was sent to Atlantic City by him in the charge of a trained nurse. She spent some two months here, and gained greatly in flesh and strength, as well as in ability to sleep, though her mental malady was otherwise less markedly ameliorated. This is only one of numerous cases of mild insanity constantly being sent here by Dr. Mitchell which come under my observation

and are found to do well with the constant watchfulness of skilled attendants.

My notes contain the histories of many other cases, but those already given are enough to enforce the argument in favor of more efficiently guarding the liberty of the citizen,—even of the eccentric and mentally unbalanced citizen,—and of discouraging the too frequent and ready resort to the bolts and bars of a so-called asylum when a dependent relative requires extra care and attention by reason of a temporary disturbance of the mental functions.

That it is time to cry a halt in this direction is manifest from the statistics of the census, showing that the ratio per thousand of those afflicted with insanity and idiocy doubled during the decade from 1870 to 1880. In other words, the multiplication and popularization of asylums, under the lax system of commitments, have been accompanied by a startling increase in the percentage of mental disease. It may be denied that the one stands in any causative relation to the other, and doubtless there are various causes for the deplorable figures just quoted; but it is manifest at least that the asylums are not lessening the ratio of the number of lunatics to the total population.

Nevertheless, the writer does not deny that there must be lunatic asylums, and that the majority of such institutions in the United States are intelligently and humanely managed. Some of the noblest physicians and other philanthropists to be found anywhere are engaged in the work of caring for the insane gathered into such establishments. All the insane poor and those of too limited means to provide the necessary attendance at their homes or in private boarding-houses must necessarily be consigned to such places of confinement. So with all the more violent cases, no matter what their social status. It may even be conceded that there are now many lunatic at large, who, for the safety of themselves and others, should be placed under some efficient form of restraint, either in asylums or in the care of strong and vigilant attendants.

But granting all this does not in the least weaken the force of the two propositions maintained in this paper. These may be thus recapitulated:

1. That the laws in many States of the Union are defective in that they permit a person to be adjudged insane and imprisoned for an indefinite period upon *ex-parte* evidence and without a trial, thus facilitating the designs of any evil-disposed persons who may desire to put relatives or others out of their way.

2. That the laws are defective in that they make no distinction between the various grades of insanity, thereby rendering it possible to deprive of liberty, even for life, persons who are clouded in some of their mental processes, and, therefore, technically insane, yet who are in no sense dangerous or likely to become so.

Incidentally it has been urged also that patients of this latter class, as well as, perhaps, some more serious cases, may often be treated more hopefully at home, when the means of the family will allow of providing proper attendance.

TETANUS IN TYPHOID FEVER.

BY MORRIS FUSSELL, M.D.

NOTICING in the *New York Medical Record* the recital of a case of "Fatal Tetanus complicating Typhoid Fever," by Dr. Simoneau, which he regards as unique, I am reminded of two cases of perhaps similar character in my own practice:

Miss A. F., æt. 18, in the third week of a typical typhoid fever, while convalescing, surprised me one morning with paroxysms of what seemed to be muscular subsultus; but the eventual rigidity of the abdominal muscles, with throes of the face and neck, and finally the trunk, the increased temperature and pulse-rate, the clear intelligence, fraught with apprehension, made its relentless nature only too apparent, death kindly closing the respiratory struggle by apnœa.

M. P., æt. 22, a farmer, sick of a typhoid type of fever, convalescing, was attacked with tetanic symptoms lasting several hours, but subsiding under the use of anæsthetics, with a solution of veratrum viride and morphia, and finally controlled.

Failing to see in these cases an idiopathic origin, I then suspected, and have since feared, that the true factor might be in the nozzle of my syringe causing some slight abrasion, possibly of a hemorrhoid, and reflected upon the very impressible nervous system so incident to convalescence. And thus they were traumatic.

DR. BURDON SANDERSON has been elected Professor of Physiology at Oxford, England.

NOTES OF HOSPITAL PRACTICE.

UNIVERSITY HOSPITAL.

CLINIC OF WILLIAM GOODELL, M.D., PROFESSOR OF CLINICAL GYNÆCOLOGY IN THE UNIVERSITY OF PENNSYLVANIA, OCTOBER 18, 1882.

Reported by WILLIAM H. MORRISON, M.D.

ANTEFLEXION OF THE CERVIX UTERI, WITH STENOSIS, TREATED BY RAPID DILATATION.

GENTLEMEN,—The first case that I bring before you to-day is a woman whom I have not previously seen, and I shall make the examination under ether.

This is the history. She is 28 years old, has been married five years, and is sterile. I told you on a previous occasion that when a woman has been married for several years, has dysmenorrhœa, and is sterile, you may take it for granted that one of two things exists: either she is trying to avoid having children, or else she has an anteflexion of the womb. There are, however, exceptions to this rule. Only the other day I was consulted by an unmarried woman with dysmenorrhœa, in whom the trouble was due to retroflexion. You must remember that anteflexion is not of itself a pathological condition. It is normal in virgins. It is not pathological unless associated with stenosis,—*i.e.*, narrowing. Puberty began in this patient at the age of 15, and she has had dysmenorrhœa ever since. If she were in good health, not suffering from over-work accompanied by care and worry, that would indicate some abnormal condition. To illustrate the effect of mental strain, let me refer to a case which I saw a short time ago. A girl had been working in a store for a number of years, was on her feet a great deal, but kept perfectly well. Recently, however, the girl at the head of one of the departments becoming unable to attend to the duties, on account of sickness, she was advanced to this position, where the work was easier, and where she did not have to be on her feet as much as before. As soon as she was put in this position of responsibility she began to be sick, and had to give it up. In the present case, where there was no nervous trouble, the dysmenorrhœa must have been due to stenosis. The narrowing may, however, have been due to congestion of the canal, just as when one catches a cold there is congestion of the Schneiderian membrane and a stuffed-up feeling in the head. She has had radiating pains, especially in the left iliac region, a very slight menstrual discharge, leucorrhœa, and a feeling of nausea after coition. She got married; and from my observation I should say that marriage is poison to a woman unless she has children. Nature intended that the womb should by pregnancy have a respite from the monthly congestions of the menses. At the end of nine months the woman gives birth to a child and suckles it, and this also gives rest to the womb. If now there is a stenosis of the cervical canal, she cannot become pregnant; the congestion grows worse at each period, and finally becomes continuous and pathological. Marriage adds to this chronic condition the congestions resulting from the marital relations, as coition, etc., and things go on from bad to worse, until the woman may at last become a confirmed invalid.

I shall now make the examination. This case gives me the opportunity to show you how to introduce the speculum. I remove the sheet, that you may see; but you will always do it under the sheet. I first introduce one finger into the vulva, and then a second, and separate them. Between my fingers I pass the speculum with the blades in contact, holding the instrument as I should hold a pistol. I do not pass directly backwards, for then I should hit the sensitive vascular structure about the meatus and the clitoris, but I direct the instrument downwards and backwards with a spiral motion, bringing the handle to the left side. I then separate the blades, and the cervix comes into view. This is a virginal cervix, with a small os. I now pass the sound first with a curve in the direction opposite to that in which it should go. When it will go no farther, I make a big sweep, or, as the French say in speaking of the introduction of the catheter, a *tour de maître* (a master's turn), and depress the handle, and it enters the womb with a little jerk as it clears the bend. The os is looking directly upward, showing that there is a double bend. The womb is crescent-shaped, and is movable.

I shall treat this case by rapid dilatation, which I consider the best treatment under these circumstances. I have never had a fatal result after this operation. I in one case had quite a severe attack of peritonitis in a patient who went home on the same day that I operated. I have been obliged to keep two or three patients in bed for a

week, but I have never had such a degree of fever as to cause me any anxiety. This cannot be said of the cutting operation, which is not unfrequently followed by death.

Catching hold of the cervix, I pass in the dilator (Ellenger's) in the same way that I did the sound. The obstruction does not appear to be due so much to the smallness of the canal as to the bend in it, for the dilator readily passes through it. You observe that the instrument has a shoulder at a little over two inches from its tip. This prevents the end from reaching the fundus of the womb, for if it did the womb might be torn when the blades were separated. I now gradually dilate the os, but, although the blades are parallel, the womb seems to recede from the instrument, allowing it to come out. Having stretched the canal to as great an extent as is possible with this instrument, I substitute my own dilator, which is much more powerful. I bring the handles together, take away the ether, and allow the instrument to remain until the woman begins to squirm. I then remove the instrument.

Formerly it was the custom, when ether had been given, to try to arouse the patient by striking the face with a wet towel, calling loudly, giving a glass of brandy, or by some other means, as soon as the operation was finished; but my rule is to allow the patient to sleep as long as she will. She is then not so drunk, the pain and soreness of the operation are gone, and she is not so likely to be nauseated.

In these cases of dilatation of the cervix, I order six one-grain suppositories of the aqueous extract of opium. I introduce one just before the operation, so that it may have dissolved by the time she recovers from the ether, and order the nurse to give one every two hours until the pain is relieved. This may require three or four. It is rarely necessary to use the six.

Are there any accidents from this operation? I think that in two of my cases the internal os must have been ruptured, for there was a sudden giving way, and I could bring the handles of the dilator together without meeting with any resistance. The first time this occurred it worried me a good deal; but no bad symptoms followed. The second case behaved in the same way. Still, I do not like such accidents, and I now perform the operation somewhat more slowly than formerly. I have met with another accident in a case which had been treated by nitrate of silver. Ten years ago, almost every woman who had any sort of uterine trouble had a stick of nitrate of silver passed into the canal: as a result, the os was in many cases almost and in some entirely obliterated. In treating a case of that kind some two years ago, the dilator slipped out, tearing quite an opening through the external os, but that did not amount to much. There was pretty free hemorrhage, which was checked by Monsel's solution. On another occasion, in a virgin with a small os, the instrument slipped out, tearing the os. These are the only accidents that I have met with. This makes my one hundred and thirtieth or thirty-first case of which I have the record, and there are other cases of which I have kept no account. This operation is looked upon with disfavor by many, and the dispute in regard to the advisability of performing this or the cutting operation led me to keep a record of my cases. Many hundreds of women have had the cervix cut, and many have died. I lost a patient by the cutting operation four or five years ago. I have cut the cervix only once since, and the result was not so satisfactory as it is after dilatation.

I now remove the dilator, and you see that the internal os has been stretched at least an inch. Of course that amount of dilatation is not going to remain; but I have overstretched the canal, and it will not return to its former size. It is sometimes necessary to perform the operation a second time; but the woman is usually so much benefited by the first that she readily submits to the second.

She will now be put to bed, and the suppositories used in the way I have described. Opium suppositories have three great advantages: 1, they cannot be vomited; 2, you bring the drug near the point of suffering; a grain of opium by the rectum in these cases will do more good than a hypodermic injection of a larger dose; 3, they cause less nausea than opium in any form by the mouth.

Let me here allude to another practical point. You know that belladonna is often given with opium, and it is a good combination under some circumstances; but it is not good where you have to push the opium. You can give, where there is

much pain, six one-grain suppositories of opium, but if belladonna is combined with the opium the patient will be poisoned by the time the second or third has been given, and, as you know, the symptoms of belladonna-poisoning are very alarming.

PELVIC PERITONITIS AND CELLULITIS PROBABLY DUE TO GONORRHŒA.

From our next patient I obtain the following history. She is 21 years old, and has been married two months. For four years she has had profuse leucorrhœa, and for the last two years severe pain in the iliac regions, worse on the right side. A week after marriage she had to go to bed, and she has been in bed ever since. She had to lie on her back, with her knees drawn up. Coughing and drawing a long breath increased the pain; there was considerable pain in each groin, and she was much swollen. The leucorrhœa was much worse after marriage. There was a thick yellow discharge, which stained her clothing. There was a great deal of burning pain about the vulva, and severe pain on passing water. During the first week she tells me that she suffered greatly in the marital relation, but now there is very little pain.

We have had in this case a pelvic cellulitis or peritonitis. There are very few physicians who can tell whether a patient has cellulitis or peritonitis. It stands to reason that if you have one you will have the other, for the peritoneum is united to the womb by cellular tissue, and any inflammation is almost certain to extend from one to the other. There are two technical terms which I wish you to remember. These are parametritis, which is applied to pelvic cellulitis, and perimetritis, which denotes pelvic peritonitis.

I shall now make the examination, and then send the patient out. I put my finger on the cervix, and it gives her pain; behind the cervix I find a little body, which is exceedingly painful. I shall now have her removed, and tell you what I think about her condition.

My opinion is that her husband had a gleet, and, supposing himself cured, married her; at least I hope he thought himself cured, for he would have been an infamous scoundrel to have married this girl, knowing that he had anything of that kind; but, having this disease, he has infected her with gonorrhœa; the inflammation has extended to the womb, and by continuity of structure through the Fallopian tubes to the ovaries, setting on foot a peritonitis and cellulitis. The womb is almost fixed. It feels as though surrounded by tallow not entirely solidified. The broad ligament consists of two folds of peritoneum, united by areolar tissue: when we have a pelvic peritonitis or cellulitis, plasma is thrown out between these folds of peritoneum, and we have fixation of the womb. Fixation is not a good term; but, as I have not succeeded in coining a better word, I still use it. Some one has made the beautiful simile that the womb in its natural condition is like a ship riding at anchor, which moves with every change in the current and responds to every change in the direction of the wind; so the womb, steadied loosely by its ligaments, responds to every movement of the body,—to every inspiration and expiration. It is needful that it should be so; for, if the womb were fixed, the male organ would during coition cause severe pain, and might indeed perforate the vagina, as has been recorded in one or two instances. A cold winter night comes, and the water in which the ship has been freely floating freezes, and the vessel no longer moves with the current. So it is with the womb: inflammation of cellular tissue and peritoneum occurs, plasma is thrown out, and the womb is fixed. When examining her, I felt a hardness of the roof of the vagina, caused by this plasma; and posteriorly I felt a little body so smooth and so sensitive that I believe it to be an ovary, which was in this position before the inflammation occurred, and which has been fixed there by the exudation.

I may possibly be doing her husband an injustice. I know nothing more difficult than the diagnosis between an honest and a dishonest vaginitis,—*i.e.*, a vaginitis resulting from natural causes and one from impure intercourse. It may be that intercourse was indulged in to excess, and an inflammation of the vagina set up, which has extended through the womb and Fallopian tubes to the peritoneum. I think, however, that the first supposition is more probably the correct one. It is not usual to have much inflammation of the urethra in vaginitis from excessive coition, cold, or other natural cause.

Pelvic peritonitis is the bugbear of gynæcologists. It is this that causes the deaths after operations. The introduction of sponge tent, curetting the womb,

an application of iodine to the cavity, or even the introduction of a sound, may cause a severe inflammation, running on to general peritonitis, and causing the death of the patient.

I shall rapidly run over the symptoms of this disease. You have performed some operation on the uterus. The next day the woman complains of pain. This may have been preceded by a chill, which is a bad sign. She lies in bed on her back, with the knees drawn up to relax the abdominal muscles. In the vast majority of cases you can cure the patient; but if the case goes on, the phenomena of general peritonitis appear, and the patient soon succumbs.

A word or two in regard to treatment. Give as much opium as is necessary to relieve the pain. A hypodermic injection of morphia will occasionally cut short the attack. Opium is the great remedy. I also give quinia in large doses—ten grains every four hours—until the patient is well cinchonized. A poultice made from Indian meal is placed over the abdomen, and changed when necessary. If covered with oiled silk or rubber, it will remain hot and moist for twelve or twenty-four hours. In the country, where you will not have the rubber or oiled silk, you can substitute greased brown paper. Syringing the vagina with hot water is also of great service. Under this treatment the patient will usually recover.

The prognosis in this case is very unfavorable. I do not believe that she will ever be the same woman she was before this happened. She will probably be sterile. An eminent physician of New York contends that in all such cases sterility is the invariable rule; but I think that this is too broad an assertion. The sterility is due to several causes: first, the ovary is now covered with a thick layer of lymph, and the ova may not be able to force their way through it; secondly, the fimbriated extremity of the Fallopian tube is so fastened to the ovary and adjacent tissues that it may not be able to grasp the ova, even if they do escape; and, thirdly, the lining membrane of the oviduct is perhaps occluded or so thickened as to prevent their passage.

In order to be properly treated, she ought to be in the hospital and in bed. She should have a succession of fly-blisters about the size of a silver dollar, applying one every day to a different spot. She ought also to have injections of water as hot as can be borne. A syringe, like Davidson's, is better than the fountain apparatus. The forcible propulsion of hot water has two advantages over a steady stream: in the first place, hot water projected against a part feels hotter than when it comes in a slow stream; and in the second place, it gives a fillip to the tissues, stimulating the absorbents to increased action. I shall also give ammonium chloride in ten-grain doses three times a day. This is a valuable absorbent, and is also a good tonic. If she were going to remain in the hospital, I should add to each dose of the ammonium chloride one-twenty-fourth of a grain of the bichloride of mercury. Possibly the womb may in time be restored to its natural condition.

Suppose this woman asked me what caused the trouble, I should not think of telling her what I have told you. I should have no right to say, "I think your husband has infected you." I do not know it. I have never seen her husband, and her trouble may have resulted from excessive coition. Such things do happen.

TRANSLATIONS.

PHYSIOLOGICAL AND THERAPEUTICAL EFFECTS OF QUASSINE.—Dr. Campardon, having for many years employed *quassia amara* in its different preparations, concluded that it had properties which he had not seen accorded to it by other observers. He then made a series of experiments with amorphous quassine, and afterwards with crystallized quassin (Duquesnel), and determined that they have the same effects, and that they represent the physiological and therapeutic effects and are active principles of the drug, only in different degrees, the crystallized being ten times stronger than the amorphous. Without analyzing his experiments, we give the conclusions (*Bull. Gén. de Thérapeut.*) which he arrived at from numerous observations:

1. That amorphous quassine and crystallized quassine, active principles extracted from *quassia amara* (Surinam) and from *quassia simaruba*, have upon man in health certain effects which are very evident and very constant,—viz.:

2. In moderate doses this principle

brings into activity and augments the secretion of the salivary glands, of the liver, of the kidneys, and perhaps of the mammary glands.

3. It excites the muscular fibres of the digestive tube, of the uro-poietic apparatus, of the biliary ducts, augments the mucous secretion, and facilitates the excretion of the normal secretions.

4. In the sick, as a pure bitter tonic, this substance awakens appetite, builds up the forces, and, in consequence of its action upon the muscular fibres of vegetable life, facilitates excretion, renders defecation easier, and aids the expulsion of renal or hepatic calculi.

5. Quassine, as well as the wood of *quassia amara* and *quassia simaruba*, causes death in inferior animals, even in comparatively small doses.

6. In healthy individuals, as in the sick, it produces, in certain doses, a series of tonic effects, which recall the action of convulsive poisons.

7. Amorphous and crystallized quassine, above fifteen centigrammes (two and a half grains) for the first and fifteen milligrammes (one-fourth grain) for the second dose, determine the following symptoms, which are only increased by elevating the dose: burning in the œsophagus, annular burning in the larynx, increasing constriction of the throat, frontal headache, especially to the right side, weight and pain in the region of the stomach, nausea, vertigo, troubles of sight, extreme agitation, febrile irritability, impossibility of continued thought, restlessness, frequent micturition, but which subsequently diminishes little by little, diarrhœic discharges, and vomiting. This is followed by spasmodic contractions of the muscles of organic and animal life, and cramps, due to tonic contractures of the muscles of the leg and thigh.

8. In order to combat the toxic effects of quassine, chloral internally, and chloroform externally for the spasmodic contractures, have given the best and most prompt results.

Gangrene of the Lower Extremities in a Case of Bright's Disease.—In the Proceedings of the Société Médicale des Hôpitaux for October, 1882, M. Roques communicated the details of a case showing the existence of a certain relation between nephritis and local asphyxia. A woman, 42 years of age, was admitted with intense pulmonary congestion and albuminous urine, due to asystole. She had complained for a year of vertigo, sometimes vomiting, or diarrhœa, and of dyspnœa. Her hands were pale; she said that she often had burning pains in her fingers; finally she complained of acute pain in the big toe, which, with the little toe on the right foot, became violet-colored. The pains were sometimes atrocious. The marbling extended up the foot, involving the entire right limb, but without appreciable œdema. The same appearance of gangrene developed symmetrically in the left leg. There were no eye-lesions, except paleness of the arteries. The symptoms increased, especially the dyspnœa, until death resulted. At the autopsy the lung was found consolidated, the heart was increased in size, and the sigmoid valves filled with villous vegetations. The kidneys were small and showed the lesions of chronic interstitial nephritis. The arteries of the legs were free from disease, and the cardiac lesion was insufficient to explain the local asphyxia in the opinion of Dr. Roques, who believes that we may admit a direct relation between nephritis and gangrene of the extremities. —*Bull. Gén. de Thérapeut.*, November 15.

Convallaria Majalis.—Prof. Desplats, of Lille, having administered lily of the valley to cases of cardiac disease in the condition of asystole, to those of albuminuric dropsy, and to cases of hepatic disorder, reports that in the heart cases the results were almost always satisfactory, —in several cases remarkably so; in the others they were doubtful or nil. The action of the drug seems very definitely directed to the heart and the kidneys. He believes that among those suffering with mitral insufficiency or stenosis with dyssystolic, visceral stases and hydropsy, the extract of the lily of the valley, administered in the dose of from one gramme to one and a half grammes (fifteen to twenty-two grains), slows the cardiac contractions, makes them more regular, increases their energy, and in the space of two or three days provokes an abundant diuresis, which relieves these congestions and dropsies. The diuretic action is manifested to a much less degree in cases of Bright's disease, and not at all in other diseases. He warns, in conclusion, that the convallaria should not be continued

for any length of time; at the end of eight or ten days the cardiac energy, in place of increasing, diminishes, and there is danger of heart-failure from the toxic effect of the drug.—*Revue de Thérapeutique*, No. 22.

According to Langlebert, the active principles of this remedy reside in (1) a glucoside, *convallamarin*, and (2) an alkaloid, *majalin*. In addition to these, the plant contains convallarin (another glucoside) and an acid named majalic acid. The aqueous extract of the flowers and stalks with the roots and leaves (in the proportion of three to one) is the most powerful preparation.

Tanret advises the use of *convallamarin*, on account of its uniform strength, in place of the extract, which varies with the season and mode of preparation. This glucoside is soluble in water and alcohol, though not in chloroform or ether.—*Bull. de Thérapeut.*, August 30.

Extirpation of a Semilunar Cartilage from the Knee-Joint, with Recovery of Use of Joint.—In a communication to the *Giorn. di R. Acad. di Med. di Torino*, 1882, F. Margary reported a case, 32 years of age, in which difficulty in walking and in flexing the knee-joint, and pain on standing, were attributed to the results of former rheumatic inflammation, by which the left internal semilunar cartilage had become so altered as to act as a foreign body. Under an anæsthetic, the operation was performed by making an incision 5 cm. in length between the patella and the internal lateral ligament, and 15 mm. above the tibial border, in order not to come in contact with the substance of the semilunar bone itself; the joint was now opened, and the cartilage, together with its capsular insertion, was removed; it was 35 mm. in length, and macroscopically displayed no essential alteration. The wound was closed by stitches, and Lister's dressing applied. No fever occurred until the sixth day, when examination showed a serious synovitis, for which a weak solution of carbolic acid was employed to wash out the joint. Otherwise there was complete asepsis: the wound was healed on the thirty-sixth day. Passive motion was then instituted, and subsequently forcible flexion under chloroform was twice practised, with massage. Finally, complete restoration of the function of the joint was obtained, so that the patient, who was a fencing-master, was enabled to resume his occupation and stand for eleven hours a day without experiencing any difficulty. No alteration in the appearance of the knee was evident.—*Centralblatt für Chirurgie*, No. 45.

The Cephalalgia of Adolescents.—The surgical affections arising from defective development of the skeleton and numerous medical disorders connected with irregular evolution of the system are familiar to the profession, but there is a form of headache, occurring about the period of puberty, which is less well known, and is deserving of attention. In youths of both sexes violent headaches occur, which do not yield to ordinary remedies, and increase in frequency and degree so as to demand treatment. Dr. Keller, in the bulletin of the *Progrès Médical*, declares that in hydro-therapy alone had he been able to find a means of relieving this disorder, but total cessation of study also, for a period of two or three years, is absolutely necessary to cure the patient.

Penetration of Vertebral Canal by a Hair-Pin, causing Traumatic Meningitis.—A young girl, in taking off her hat, forced a hair-pin into her neck, which apparently wounded the spinal cord, as there was, at once, momentary motor paralysis of the side opposite to the injury; but sensory troubles of the same side, continuing for five days; loss of consciousness, vomitings, vertigo; marked pain and stiffness of the nucha up to the third day. Such were the symptoms upon which was based a diagnosis of traumatic spinal meningitis by Dr. Viry, who reports the case in the *Journ. de Méd. et de Chirurgie pratiques*. A month afterwards, a complete cure had followed.—*Revue de Thérapeutique*, No. 22.

A New Point in the Diagnosis of Femoral Luxations.—Dr. Treub, in reporting a case of obturator dislocation of the femur (*Centralblatt für Chirurgie*, No. 45), calls attention to the value of rectal exploration in order to ascertain the position taken by the head of the bone. In children the foramen ovale as well as the sciatic foramen is very easily examined by the forefinger when inserted into the rectum, and if the head of the femur is in either situation it may be readily felt. In adults it is available especially for the foramen ovale, but by the aid of an anæsthetic and with the hand in the bowel the sciatic

foramen may also be explored. The author therefore recommends either for a diagnostic or merely for a demonstrative purpose, in more or less obscure cases of obturator or sciatic luxation, that the rectal method of examination be tried.

ERYTHEMATOUS ERUPTION AFTER ACUTE RHEUMATISM.—A case is reported (in *Revue de Thérapeutique*, No. 22), by M. Hallopeau, of a scarlatiniform erythema, coming on during convalescence and several days after an attack of acute articular rheumatism. It was accompanied by slight pulmonary congestion and albuminuria, and considerable fever, and was followed by desquamation. The patient shortly afterwards died with pericardial effusion and pulmonary and renal congestion.

THE HYPNOTIC EFFECTS OF ACETAL.—Experiments made upon man by Dr. Von Mering appear to establish the fact that acetal, which is a volatile substance something like ether, not only has an hypnotic action, but is also anodyne in its effects. It is administered by the mouth in dilute solution, hypodermically, or by the veins. Experiments upon animals demonstrate that it acts primarily upon the cerebrum, then upon the spinal cord and medulla oblongata, paralyzing respiration before stopping the heart. Death in the animals experimented upon resulted from apnœa. —*Berliner Klin. Wochenschrift.*

DIFFERENT PHYSIOLOGICAL EFFECTS OF CINCHONIA AND QUINIA.—M Laborde reported to the Société de Biologie that the results of experiments upon animals showed that quinia provokes stupor, while cinchonia, on the contrary, produces violent epileptiform convulsions even in comparatively small doses, the remedies being given hypodermically. He claims, therefore, that one cannot be substituted for the other in therapeutics merely because they are supplied by the same vegetable source, as they differ from each other in their effects as greatly as morphia and papaverine.—*Le Progrès Médical*, No. 45.

CARBOLIZED IODOFORM.—The following formula is given by C. Sherk (*Berliner Klin. Wochenschrift*) as a great improvement over plain iodoform:

℞ Iodoform., 10 gr.;
Acid. carbolic., .05 gr.;
Ol. menth. pip., 2 drops.

The acid is to be rubbed up with the iodoform, and the peppermint oil added subsequently. The disagreeable odor of the drug is completely covered, and it is not again developed, even at an elevated temperature.

ADMINISTRATION OF ASPIDOSPERMINE.—Eulenberg, in the *Medicinal-Kalendar* for 1883, gives the following formula for administering the active principle of quebracho, which, it has been claimed, may be used with benefit in all forms of dyspnœa without regard to the cause:

℞ Aspidospermine, 1 grm. (gr. xv);
Aquæ destillatæ, 50 grms. (f℥jss);
Acidi sulphurici, q. s. ad solve. M.

Dose, 1 gramme (15 minims), containing 2 centigrammes (gr. ⅓) of the remedy, or more.—*Le Progrès Médical.*

ATROPHY OF GASTRIC GLANDS A CAUSE OF PERNICIOUS ANÆMIA.—In an article entitled "Bijdrage tot de Studie der Progressive Perniceuze Anæmie" (*Weekblad van het Neder. Tijdschrift voor Geneeskunde*, 1882, No. 18), Dr. W. Nolen communicates the clinical history of two cases of this disease in which the post-mortem examinations revealed interstitial inflammation of the mucous membrane of the stomach, with partial or total atrophy of the gastric glands. The anæmia appeared as the result of the stomach-affection.—*Centralblatt für Med. Wissen.*, No. 38.

PROCTITIS FROM PLUM-STONES.—A case is recorded in the *Deutsch. Med. Wochenschrift* (No. 10, 1882) where proctitis and paralysis of the anus was found to be due to the impaction of plum-stones, of which one hundred and thirty-seven were removed. Cold-water injections and castor oil completed the cure.

ECZEMA OF THE GENITALS.—Devergie recommends:

℞ Alumin., 10–20 grammes;
Aquæ, 500 "

Or the following:

℞ Hydrarg. chlorid. corrosiv., 10–20 cgrm.;
Aquæ destillat., 500 grammes,

in solution, applied three times a day.—*La France Médicale.*

BORACIC ACID FOR RINGWORM.—

℞ Acid. boracic., gr. xx;
Alcoholis, f℥j;
Ætheris, f℥j. M.

Sig.—To be forcibly rubbed into the affected parts of the scalp three times daily with a rag or moderately stiff brush. The head also to be thoroughly washed each morning with soap and hot water.—CAVAFY.

PHILADELPHIA
MEDICAL TIMES.

PHILADELPHIA, JANUARY 13, 1883.

EDITORIAL.

THE UNITED STATES PHARMACOPŒIA.

No. 3.

THE additions to the Pharmacopœia are very numerous, as will be seen by reference to the list, embracing two hundred and fifty-eight drugs or preparations, the names of which we print in another column. A number of these additions are, to our thinking, very foolish, betokening a return to mediæval medicine, or an undue fondness for the herbalist. Such are Bryony, Menispermum, Picrotoxin, Staphisagria, Pulsatilla, Calendula, and perhaps Frangula and Hamamelis; but no great harm is done by these recognitions, except to the much-suffering medical student, as no physician is forced to use a remedy because it is officinal, or even to "bother his head" about it, unless he so wishes.

The useful additions are very important, and in a few cases new preparations have been originated which bid fair to be very valuable. In commenting upon these additions, we can only find space for discussing a few important remedies of the latter class, and for pointing out a few facts in regard to others. In the fifteenth edition of the United States Dispensatory, which will appear during the coming month of February, our readers will find all further information.

The first addition upon the list is a class of new preparations, known as Abstracta, or Abstracts, which in some measure correspond to the so-called "powdered extracts" that in the last few years have been creeping into commerce. A very important feature about the officinal abstracts is that they are of the nature of extracts to which sugar of milk has been added in such proportion as to produce a product having a definite relation to the crude drug: they are in all cases double the strength of the drug which they represent, are prepared by very careful formula, and are dry powders, which may be kept for years without change. Because they are of more definite strength than extracts, and are pharmaceutically more manageable, they ought to be useful preparations. The dose is, of course, half that of the drug represented. For their origination and introduction we are chiefly indebted to Prof. Joseph P. Remington.

Dilute Hydrobromic Acid is a useful addition, enabling the practitioner to obtain a definite preparation of this important remedy. It is prepared by a process based upon that published in 1878 by Dr. Squibb, and contains ten per cent. of the absolute acid. It may be given in doses of two fluidrachms, corresponding, in the amount of bromine contained, with twenty grains of bromide of potassium. It is plain that the dose usually administered is much too small, and it will probably be found that a tablespoonful is only a moderate dose. It should always be well diluted, preferably with syrup.

Argenti Nitras Dilutus contains only fifty per cent. of the nitrate, and will probably prove a useful addition to the surgeon's armamentarium. Bismuthi et Ammonii Citras is a soluble preparation of bismuth which does not resemble at all the old insoluble salts of bismuth in its action upon the intestine, but is distinctly astringent, and in large amount irritant. It may be given in doses of five grains, in dilute solution, for diarrhœa of relaxation. In cases of asthma, the practitioner can now write for Charta Potassii Nitratis with the satisfaction that he will obtain a definite remedy. Chrysarobinum is the chrysophanic acid of commerce.

Collodion Stypticum contains twenty per

cent. by weight of tannic acid, and only a little over two per cent. of pyroxylin: of course the film left behind by evaporation will be chiefly tannic acid. The preparation requires testing in practice before a verdict can be given regarding its value, but will probably afford an excellent method of making a permanent application of tannic acid. Elaterinum has been made officinal for the purpose of securing a precise preparation. It is a little stronger than the best elaterium, and may be given in doses of one-tenth to one-eighth of a grain. The Extractum Aloes Aquosum is an excellent preparation of the drug, fully representing it,—indeed, being little more than purified aloes. The making of Extract of Malt officinal takes away the excuse for the use by the profession of proprietary Extracts.

Of the fluid extracts it is proper to direct especial attention to the Extractum Aromaticum Fluidum, which contains the activities of cinnamon, cardamom, ginger, and nutmeg, and ought to be frequently used as a flavoring stomachic addition to mixtures, or by itself as a carminative, in doses of three to ten drops. When the name of Extractum Rhois Glabræ Fluidum was given, the Committee of Revision forgot that a busy practitioner objects to having to commence writing a prescription on Monday in order to get through with it during the week. The remedy is, however, a very valuable basis for gargles, acting by its large amount of tannic acid and by its acid malate. Now that Hyoscyamin is officinal, it is to be hoped that apothecaries will see that the alkaloid they dispense conforms with the officinal tests, so that order may be brought out of the heterogeneous mass which circulates in commerce under the name of Hyoscyamine. The same remarks might also be made concerning Codeine.

For want of space, we must postpone the further consideration of the Pharmacopœia until our next issue.

A POLYCLINIC AND COLLEGE FOR GRADUATES IN PHILADELPHIA.

APPLICATION has been made to the present Legislature of Pennsylvania for a charter for a post-graduate medical school, to be located in Philadelphia. It is intended to model this institution upon the two in New York, which are reported to have achieved already considerable success. We will not anticipate the announcement of this new school, which will soon be issued, but may state that the several branches, which have already been very favorably apportioned, include some of the best-known names in the profession of this city. A fund of sixty thousand dollars has been guaranteed for the purchase of a suitable structure for the lectures, which, it is understood, will be delivered near the centre of the city, probably not far from Pennsylvania Hospital. At these lectures, delivered by prominent specialists upon the several departments of medicine, tickets can be taken for one or more, according to the choice of the student. These practical courses apparently have been growing in favor of late years. It was to meet this want that a post-graduate course was instituted at the University two years ago, which has been highly successful. If the recent graduate be like a young marsupial (in that he is cast forth into the cold world before he is well able to go alone), to which he has been aptly compared by a prominent obstetrician of this city, it would seem as if such an institution as a post-graduate course of practical instruction would be not an advantage only, but a positive necessity, more especially in the absence of the much-needed hospital facilities and experience denied, perforce, to the majority of medical students.

THE FOLLOWING POWDER is commended as a specific for the removal of condylomata:

℞ Hydrarg. chlorid. mit., ʒi;
Acid. borac., gr. x.
Ft. pulv.

BACILLUS TUBERCULOSIS.

IT is probably known to most of our readers that Dr. Schmidt, of New Orleans, declares that the Bacillus tuberculosis of Koch is not an organism, but a crystalline body. Specimens sent to Dr. William Hunt by Dr. Schmidt seem to show that Dr. Schmidt is correct in affirming that what he has thought to be Koch's bacillus is a crystalline body. The specimens have been examined by Prof. Leidy and Drs. H. F. Formad and I. Gibbons Hunt, who all unite in asserting that they contain fat-crystals, but do not show any bodies corresponding with the bacillus as manifest in the preparations made by Dr. Formad, which accord with the assertions of Koch. There can be no doubt as to the existence of the Bacillus tuberculosis, though its etiological relation with tuberculosis is at present very doubtful.

CORRESPONDENCE.

CHICAGO LETTER.

THE trial of the woman Sturla, for the murder of a Mr. Stiles, has attracted much attention from the medical profession of this city. The proceedings were remarkable for the character of the medical testimony. The defence set up the plea of insanity, and it would appear that though there was no evidence bearing upon the woman's past history, showing a suspicion of insanity, yet the defence called medical witnesses who declared the prisoner the subject of hystero-epilepsy, emotional and moral insanity, etc. The result of the trial is not calculated to beget popular confidence in expert testimony.

The medical schools of the city have full classes, and, if the aggregate be considered, the number far exceeds that of any former year. It is to be regretted, however, that as much cannot be said of the *personnel:* the general standard, as regards educational preparation and fitness, is below that supposed to be aimed at by most of the schools. The homœopaths have a largely increased number, —one of the two schools having about three hundred, forty of which are women. In consideration of the reputation of this school for easy graduation, this preference on the part of the fair may mean something. The steadily increasing numbers graduated by our schools each year constantly suggest the question as to what becomes of the needless reinforcements. This city is said to have—all kinds, regular and otherwise—about one physician to every three hundred and sixty inhabitants; and yet they come.

Members of the profession have lately received their share of attention at the hands of the numerous highwaymen that have for some time past infested the city. Within a fortnight two medical men have been knocked down and robbed, one being so seriously injured as to excite great anxiety for his recovery; the latter was passing from his office to his residence, but a block away; the other was called early in the night to a patient near by. Both happenings were in the most respectable parts of the city.

Scarlet fever, which had prevailed quite extensively during the fall, is now declining, there being 288 cases reported for November, with 37 deaths, and for twenty-eight days of December a total of 188 cases, with 21 deaths. The disease continues mild in character, and to this may be attributed its subsidence. Of smallpox there have been 65 cases for November, and 48 cases for twenty-eight days of December.

The following is an extract from a letter received by a gentleman residing in this city, and goes to show how highly we are esteemed by our South American neighbors. "Doctor, I want you to get me two diplomas, one for a great friend of mine here as an M.D., the other for an apothecary. Of course I do not dream of a legitimate document, but there are many to be sold at any price, and we can fill in the names here, and whatever the cost I will forward you." The writer had evidently heard of the "Bellevue Medical College" of Massachusetts, and perhaps of others not so far away.

F. W. M.

December 28, 1882.

PROCEEDINGS OF SOCIETIES.

NEW YORK ACADEMY OF MEDICINE.

A STATED meeting was held December 21, 1882, FORDYCE BARKER, M.D., LL.D., President, in the chair.

The Northwestern Medical and Surgical Society of New York donated the sum of one hundred dollars to the journal fund of the Academy. The thanks of the Academy were tendered, through its President, to the Society for its generous gift.

Dr. AUSTIN FLINT presented to the Academy, on behalf of James Platt White, of Buffalo, a marble bust of the late Prof. White, of Buffalo. It was the work of J. G. Mitchell, sculptor, of Rochester.

Dr. T. GAILLARD THOMAS then read a paper entitled, "A Contribution to the Sub-

ject of Removal of the Uterine Appendages (Tait's Operation) for Recurrent Pelvic Inflammations, with Pathological Specimens."

In the issue of the *British Medical Journal* for July 29, 1882, Mr. Lawson Tait, of Birmingham, England, enunciated views which were entirely at variance with those heretofore held with reference to certain pelvic diseases, and made extended remarks on the diagnosis and treatment of chronic inflammation of the ovary. Tilt had before stood almost alone as a firm advocate of the claims of ovarian pathology. The views now advanced by Tait, if accepted, were destined to open up a new field and exert upon this department of medical science a new influence.

The following points might be given as the most original and valuable views enunciated by Mr. Tait:

1. He assumes that the view formerly held, that laparotomy and allied operations should be postponed until absolute risk to the life of the patient rendered them necessary, should be abandoned, and that in the hands of the expert they are so far from danger as to be justifiable even when life is not jeopardized.

2. That the usually accepted doctrine that menstruation is dependent upon ovulation is wholly erroneous.

3. That the ovaries have nothing whatever to do with menstruation, and that this phenomenon is dependent upon the Fallopian tubes.

4. That given cases of abnormal menstruation are justifiably treated and are relievable in no other way than by extirpation of the ovaries and the tubes.

5. That in chronic ovarian disease the tubes are invariably involved, and that in most cases it is the tubes which are chiefly at fault.

6. That the mortality in the last thirty-five operations having been only one, even this slight loss of life is susceptible of diminution in the future.

7. That many of those cases heretofore regarded as instances of recurring pelvic peritonitis or cellulitis are really cases of tubal dropsy and ovarian disease. This last statement did not appear in the paper alluded to, but was received from Dr. T. A. Emmet, who obtained it from Mr. Tait in a private conversation.

Dr. Thomas stated that the removal of the uterine appendages was performed for the purpose of relieving severe menstrual disorders and nervous disturbances, which did not so much jeopardize the life of the patient as make it miserable. He alluded briefly to the history of oöphorectomy, and then stated that his object was not to consider Tait's views analytically with regard to the removal of the uterine appendages, but simply to report four cases in which tubal dropsy had existed associated with chronic ovaritis as described by Tait. The cases reported were too recent to admit conclusions to be drawn with reference to what might be the ultimate results.

Case I.—A colored woman, 30 years of age, the mother of one child aged eight years. Menstruation had been perfectly normal up to the period of weaning the child, eighteen months after delivery. She then suffered from symptoms resembling those of pelvic peritonitis and cellulitis, accompanied by a discharge from the vagina. The menstrual periods were irregular, and the flow was scant. Locomotion was painful. She had an attack of severe pelvic inflammation, similar to that already described, every year. During the last eighteen months she had suffered almost constantly from severe pain in the region of both ovaries and across the back, from leucorrhœa, and during the last six months from a profuse loss of blood at the menstrual periods. The uterus was large, and anteverted. A few small fungoid growths were scraped from the lining membrane. An anteversion pessary did actual harm. On more careful examination, he detected enlarged ovaries, and suspected that it was a case of coincident ovaritis and tubal dropsy, as described by Mr. Tait. An explorative incision was made, and, finding small cysts of the ovaries and distention of the Fallopian tubes, they were removed. Antiseptic precautions were observed in this and the following cases, with the exception of the use of the spray. The patient made an excellent recovery, and had passed one menstrual period without having any sanguinolent discharge.

Case II.—Patient aged 25 years. Nine months after first confinement had an attack of pelvic inflammation. Since then menstruation had been irregular and painful; there was constant leucorrhœa and difficulty in locomotion. Upon examination, there was found to be partial laceration of the cervix and perineum, with exquisite tenderness in the region of the ovaries and all round the uterus. Tait's operation was performed. The ovaries were not much diseased, but contained small cysts. The tubes were distended by large accumulations of pus. Firm adhesions were present. The patient recovered without any marked rise of the pulse or temperature.

Case III.—Patient aged 22 years. Began to menstruate at the fourteenth year, and suffered from the most dreadful dysmenorrhœa. The pain during the past year had been unceasing, and was greatly increased at the menstrual periods. The ovaries were found upon examination to be tender, enlarged, somewhat prolapsed. Tait's operation was performed. The ovaries were found to contain small cysts. The lining membrane of the tubes was inflamed, and the tubes contained pus, which, however, was not confined within them so as to create dropsical enlargement. Recovery took place without an unfavorable symptom, and the next period had

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Grindelia Squarrosa.
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Guarana.
Helianthella.
Honduras Bark.
Horsemint.
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Jaborandi.
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Jamaica Pimento Leaves.
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Manaca.
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Manzanita Leaves.
Mercury Weed.
Mistletoe.
Musk Root.
Paraguay Tea.
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Quebracho Bark.
Quinine Flower.
Rhus Aromatica.
Sabbatia Campestris.
Sandal Wood.
Sarracenia Flava.
Sassy Bark.
Saw Palmetto.
Shepherd's Purse.
Sierra Salvia.
Stylosanthes.
Sundew.
Thapsia Garganica.
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just been passed without any menstrual flow, and the patient was comfortable.

Case IV.—Patient unmarried, 27 years of age. Menstrual life began at the age of fourteen years, with pain and exceedingly severe dysmenorrhœa. Two years ago she had an attack of pelvic peritonitis, since when she had been a most wretched invalid. She had suffered excessively from repeated attacks of pelvic peritonitis occurring at the menstrual periods, and came near losing her life during one of these attacks in September last. At the time the operation was performed, her appearance resembled that of a patient in the third stage of pulmonary consumption; but it was impossible to restore strength in any degree, and it was decided to operate at once. The ovaries were found to contain small cysts. The tubes were dropsical. The operation was a difficult one, and no one who witnessed it could avoid making an unfavorable prognosis, the patient's condition was so extremely low. She died on the sixth day after the operation.

These four cases covered the extent of Dr. Thomas's experience with this operation. He referred to the successful results obtained with it by Mr. Tait, which had been as wonderful as the success of Keith and Wells in the performance of ovariotomy, and stated that it behooved American surgeons to investigate and determine, if possible, why better results were obtained abroad than here.

Dr. H. J. GARRIGUES then read a paper entitled "Gastro-Elytrotomy (Thomas's Operation) compared with Oöphoro-Hysterectomy (Porro's Operation)."

Gastro-elytrotomy had been performed three times during the past four years, the operators being Hime, of Sheffield, Edis, of London, and Gillette, of New York. These, together with the cases which had been reported before, made eight in all, in which there had been four recoveries and four maternal deaths. According to Harris, of Philadelphia, Porro's operation had been performed eighty-four times, with thirty-seven recoveries and forty-seven deaths. One of the principal objections which had been urged against gastro-elytrotomy was that it could not be carried out according to the strict rules of antiseptic surgery; but Dr. Garrigues believed that the operation could be rendered sufficiently antiseptic to justify its further trial.

The danger from hemorrhage was much greater in Porro's operation than in Thomas's. Attention was called to the different methods which had been employed for controlling hemorrhage, such as the use of the écraseur, the elastic ligature, the soft-rubber tube of Esmarch, etc.

Shock and exhaustion so far had been the only causes of death in Thomas's operation. He believed that the danger from these sources would be much less if the subjects were chosen and the operation were done earlier. The danger from shock was much less in gastro-elytrotomy than in Porro's operation, while that from exhaustion was greater on account of profuse suppuration which almost inevitably occurred. Peritonitis was infinitely less liable to occur in gastro-elytrotomy than in Porro's operation. Certain accidents, as tetanus, heart-clot, etc., were liable to occur equally in both operations. In five cases in which the intra-peritoneal method of treating the stump had been tried, four of the patients died.

In the country the old classical operation of Cæsarean section was usually preferable to any of its substitutes. In hospital practice gastro-elytrotomy should be the operation adopted if the cervix were dilated or dilatable. If the circumstances were such as to render operative interference necessary before dilatation had begun, Müller's operation was preferable.

DISCUSSION.

Both papers being before the Academy, Dr. POLK was requested to open the discussion. Dr. Polk first spoke with reference to placing the operation; and secondly, with reference to the difficulty of performing it as compared with Cæsarean section and the Porro-Müller operation.

In placing the operation he believed it to be a mistake to put it in direct antagonism to Cæsarean section or any of its modifications. There were certain conditions in which the Cæsarean section or some one of its various modifications was the only operation which could properly be performed. Again, there were cases in which Cæsarean section or some one of its substitutes had been performed, where gastro-elytrotomy would be the more appropriate operation. Among the former class of cases belonged those in which the cervix was not dilatable. Dr. Polk then traced the successive steps in the operation of gastro-elytrotomy, comparing the same with those in Porro's operation, and stated that if it were necessary the incision might begin as high up as anywhere between the crest of the ilium and the last rib; that it was unnecessary in this case at all to injure the peritoneum; that after having reached the transversalis fascia the sharp instrument should be no longer used; that danger of injuring the epigastric artery, the uterine artery, the ovarian vessels, the base of the bladder, and the ureter could easily be avoided. He also spoke at length of the method of entering the vagina, referred to the position of the uterine artery in the pregnant and non-pregnant state, and described the method of tilting the uterus during the extraction of the child, which is one of the most difficult steps in the operation. The upper part of the wound should then be carefully closed, while the lower part should be left open for the introduction of a drainage-

tube, to extend down into the vagina. It would be evident to all that the dangers connected with Cæsarean section and its modifications were much greater than those connected with gastro-elytrotomy.

Dr. TAYLOR referred at some length to the statistics of the three operations, Cæsarean section, Porro's operation and its modifications, and gastro-elytrotomy, and reached the conclusion that in general the old classical operation gave better results and was to be preferred.

Dr. SKENE spoke of the ease with which gastro-elytrotomy could be performed, and the comparatively little danger attending it, but said that he thought that the operation had not been performed in a sufficient number of cases and under such circumstances as to justify us in comparing its statistics with those of the other operations alluded to.

Dr. LUSK had never witnessed gastro-elytrotomy, but he believed that with a contracted pelvis and a dilated cervix, gastro-elytrotomy was the operation which should be performed. But there were cases in which dilatation did not exist and gastro-elytrotomy could not be performed: in such cases it was necessary to have an alternative. According to the statistics which had been collected, Cæsarean section had almost invariably been performed under the most unfavorable circumstances, which in part accounted for the large mortality which had attended it. He believed that under more favorable circumstances and by closing the uterine wound far better results could be obtained. He also referred to the possible advantage to be derived from the method of dissecting up the peritoneum for a distance of about two-fifths of an inch, and then removing a melon-shaped piece from the wall of the uterus, so as to permit the peritoneal surfaces to be folded in and brought in contact by sutures, with the hope of obtaining quicker union of the edges of the wound.

Dr. GILLETTE thought that laparo-elytrotomy was not to be compared with Porro's operation, either with reference to danger or difficulty in its performance. He was not prepared to make the plea which Dr. Lusk had made for Cæsarean section. We might close the uterine wound in any manner whatever, still there was the danger of non-contraction of the organ, as often occurred even after normal labor.

Dr. T. A. EMMET remarked that he had had no experience in the performance of Tait's operation, but while abroad during the past summer he had seen as many as sixty specimens which had been removed by Mr. Tait during the last eighteen months. Dr. Emmet could not account for where all these cases came from, for out of numerous autopsies which he had had occasion to make some years ago, he found the condition present not more than a dozen times. Mr. Tait, in reply to his question as to what were the indications for the operation, could only state that in all of those cases of chronic pelvic inflammation which did not get well of themselves within a reasonable time, he opened the abdomen and invariably found this dropsical condition of the tubes, distended with serum or pus. The improvement which had taken place in the general appearance of the patients after the operation had been performed was very remarkable. While there could be no question with regard to Tait's success with the operation, Dr. Emmet did not yet feel prepared to resort to it, but was waiting for more light upon the subject.

The discussion was closed by Dr. GARRIGUES.

REVIEWS AND BOOK NOTICES.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, U. S. ARMY. Vol. III. Washington, D.C., 1882. Pp. 1020.

The third volume of this extraordinary work is on our table, and it is not without increased interest in the progress of the publication of the work and a feeling of gratitude to the government and to the untiring energy of Dr. Billings that we glance over its heavily-laden pages.

This volume, Dr. Billings states, "includes 9043 author-titles, representing 10,076 volumes and 7386 pamphlets. It also includes 8572 subject-titles of separate books and pamphlets, and 28,846 titles of articles in periodicals. There are also catalogued 4335 medical portraits." The three volumes thus far published contain 30,629 author-titles, representing 23,041 volumes and 23,594 pamphlets; also 129,882 subject-titles, of which 100,760 are of articles in periodicals. There are also, as before noted, 4335 medical portraits catalogued.

The amount of labor represented in these three volumes is enormous, and, when we consider what the many ponderous parts will exhibit when the work is completed, is absolutely colossal.

The value of this work to the profession, and indirectly to the community, cannot be estimated in dollars and cents, and it is hoped that the government will throw no impediment in the way of its rapid completion by the want of a liberal appropriation.

E. T. B.

THE TREATMENT OF CANCER. By JOHN CLAY, Professor of Midwifery in Queen's College, and Obstetric Surgeon to the Queen's Hospital, Birmingham, etc. J. A. Churchill, London, 1882.

This is a pamphlet of thirty-six pages of material published in the numbers of the

Lancet for March 27 and October 2, 1880, and December 17, 1881. The author relates his experience in the use of Chian turpentine administered internally in cases of cancer of the female genital organs. Hoyle says, "When in doubt, take the trick." We advise to try Chian turpentine, although our faith will not remove the mountains of doubt engendered by a review of the use of other vaunted specifics for the eradication of morbid growths.

GLEANINGS FROM EXCHANGES.

THE RADICAL CURE OF HERNIA BY REMOVAL OF THE SAC AND STITCHING TOGETHER THE PILLARS OF THE RINGS.—In a suggestive paper read by Mr. Banks at the recent meeting of the British Medical Association, the results of thirty operations for hernia are presented by the oldest method of treatment,—extirpation of the sac. In twenty-one cases the operation was done for relief; in nine cases as part of the operation for strangulated hernia. There was complete failure in two cases, only partial success in four (the patients wearing a truss, but able to keep the hernia up with it, giving great relief). In fifteen cases the patients are now at work, with the parts firm, and without cough-impulse; some without a truss, some wearing a light one for precaution and not really requiring it. In seven the operations were too recently performed to test them. One of strangulated hernia died from collapse, and one patient died apparently from disease of the nervous system about a fortnight after the operation for its radical cure, but had quite recovered from the operation. The method adopted by Mr. B. is as follows. He employs thorough antiseptic treatment, and makes a point of having the pubes and parts around the anus most carefully shaved. In an inguinal hernia, the incision should commence at least an inch above the upper margin of the external ring, so that plenty of room may be given thoroughly to clear the pillars for the stitching. The sac is next freed from the surrounding tissues, and this is often much more troublesome than might be imagined. One is almost always tempted to think that it has been reached long before it really has: so that frequently, after a considerable amount of stripping has been done, it is found that it is not the sac at all that is being cleared, and the process has to be done over again. He says that it is this mauling of the loose cellular tissue of the scrotum that gives rise to nearly all the trouble that occurs in the way of suppuration. The sac ought to be fairly reached before any stripping of it is done. Another point is that, in the case of an old sac, the lowest point is intimately adherent to the tunica vaginalis; and, if it be roughly pulled upon, the testicle enclosed in the tunica comes bodily out of the scrotum,—not a very serious matter, it is true, but unpleasant to look at. The sac having been cleared, its contents are pressed up into the abdomen. When it is thin, there is no difficulty in making sure that it has been completely emptied; but, if there be the slightest doubt, it should be slit up and its interior examined. Adherent omentum, if in small quantity, he separates carefully, ties with catgut in one piece, and cuts it off; if in large mass, it should be split up into two or three portions, and ligatured with carbolized silk to insure a good knot that will not slip. One cannot be too careful about the securing of the omental stump before it is finally pushed into the abdomen, and every drop of bleeding should have ceased, both from the omentum and from the neck of the sac, before the next proceeding. This consists in pulling the sac well down and tying it as high up as possible. He uses two ligatures of strong catgut, as that material is apt to be treacherous. In case anything should happen to one, the other is there. With a curved needle, armed with strong silver wire, the pillars of the external ring are next pulled together, leaving only room for the spermatic cord at its lowest part. Two or three stitches suffice. These are cut short off and left *in situ*. A clean carbolized sponge put beneath antiseptic gauze for the first twenty-four hours makes the best dressing.

He lays especial stress upon the use of silver wire ligatures for joining the pillars of the ring, which are then cut off short and allowed to remain. This is the only point of novelty in the operation. For cases that are reducible and admit of invagination, he prefers the corkscrew operation of Dr. Spanton, of Hanley, which fulfils all that is required for a simple case, especially in a young person, when the sac is capable of being returned. In all other cases requiring a radical operation, this method by removal of the sac and complete occlusion of the canal he considers superior to all others, and by recent methods of performing operations with antiseptic precautions it is not a dangerous operation, especially in cases over thirty years of age, whilst its results from a curative or remedial point of view are most satisfactory.—*British Medical Journal*, November 18.

HYPNOTISM IN PARIS ON THE DECLINE.—In the Paris letter to the *Lancet* (November 4), the correspondent gives a lengthy report of the experiments made by M. Donato, who gave public *séances*, and who differed from Charcot in using for his magnetic experiments, instead of hysterical women, only young and presumably healthy men, with the exception of a single female assistant. These subjects were put through all the feats described by Charcot in his experiments on hypnotism, being apparently fully under the control of the operator's will. So much at-

tention was given by the students to these exhibitions that Prof. Carmelli, of the Government School, gave an anti-magnetic demonstration, in which subjects were made to pass through exactly the same exercises without any pretence of magnetism. The *séance* was a complete success, and from that day M. Donato's glory began to dim, until, in an unfortunate hour, he dismissed his assistant, who thereupon made some damaging revelations as to the manner of conducting these exhibitions. In an interview with a journalist, she fully exposed M. Donato's tricks, and made some very interesting disclosures. Among other things, she told her interviewer that at times she was rather refractory, and could not fall asleep. M. Donato then resorted to the expedient of dosing her with opium, which made her feel so drowsy and stupid that he used to pinch her to keep her awake till the proper time arrived; but there were times when she was so sleepy from an overdose of opium that she could not be roused, and it was then that M. Donato had recourse to the young male subjects already referred to, who were regularly trained to go through the processes told off for them. She further avowed that, if she had a choice in the matter, she would by a great way prefer to have the pins thrust into her arm than be pinched as she was, as the latter operation caused her great pain, and her body was covered with boils in consequence. Nothing has been heard of M. Donato since these disclosures were made, and the rage for exhibitions such as he provided in Paris has consequently declined.

PYO-PNEUMOTHORAX SUCCESSFULLY TREATED BY RESECTION OF A RIB AND DRAINAGE.—Before the Manchester Medical Society, recently, Dr. Dreschfeld exhibited a patient who was admitted into the Manchester Infirmary on August 15, suffering with all the symptoms of pyo-pneumothorax. The patient, a man aged 49, had always enjoyed good health, with the exception of a cough which had troubled him much for the last twelve months. Five weeks before admission, he was suddenly taken ill with fever, shivering, and pain in his left side. A few days before admission, he was suddenly seized with intense dyspnœa, and at the same time expectorated large masses of pus. On admission, examination of the chest showed bulging of the left side, diminished movement, and displacement of the heart towards the right; tympanitic percussion-sound in the upper left side in front, dulness below, and dulness behind on the left side; diminution of fremitus and succussion, and metallic tingling in front, behind, and left side; increased fremitus, bronchial breathing, and moist râles above; diminished fremitus and absence of breathing below. The right side of the chest showed symptoms of extensive bronchitis. The pulse showed marked arterial tension. The urine, profuse, of low specific gravity, contained albumen and granular casts. There was no œdema nor ascites. Temperature 101.5°, with anorexia. The dyspnœa was so intense that the patient could not assume the recumbent posture. Large masses of fetid pus were continually being expectorated. From these symptoms, it was evident that the patient had suffered from empyæmia, which, bursting into the lung, already affected with chronic broncho-pneumonia, and communicating with a bronchus, caused the establishment of a pyo-pneumothorax. The patient also suffered evidently from commencing granular kidney. On August 18 a portion of the seventh rib was resected, and the pus evacuated, and a drainage-tube inserted. After this the patient made a very rapid recovery; the fever subsided; the cavity completely closed, and the wound is now quite healed; the left lung expanded again fully, and all the symptoms of disease in the left lung disappeared. In less than two months the patient had gained twenty-two pounds in weight. The kidney-disease, as far as pulse and condition of urine showed, remained the same.—*British Medical Journal.*

ON THE EXCISION OF CHANCRE.—A very able paper by Dr. P. A. Morrow, on the excision of chancre as a means of aborting syphilis, which has already been noticed in these pages as part of the proceedings of the New York Academy of Medicine (meeting held November 16), appears in full in the *Journal for Cutaneous and Venereal Diseases* for December. In this article the author very carefully reviews the literature of the subject, which is now sufficiently extended to warrant practical deductions, and he endorses the opinion now generally held of the inutility of this measure, since, when the chancre appears, the patient is already syphilitic. He concludes (1) that the facts of clinical experience, as well as deductions from analogy and experiment, are opposed to the theory of the local nature of chancre upon which the practice of excision is based; (2) that the practice of excision of the chancre, as a means of aborting syphilis, is condemned by its clinical results, when these results are weighed in the balance of discriminating judgment, due regard being had to the possibilities of error; (3) that these sources of error are comprehended under doubtful diagnosis, insufficient observation, both as regards time and method, and *post hoc* conclusions; (4) that in cases where secondary accidents fail to appear after excision there is no positive evidence that it had an abortive influence, since experience proves that sores with all the typical signs of infecting chancre are sometimes not followed by constitutional syphilis; (5) that there is no evidence that excision of the chancre attenuates the syphi-

litic virus and modifies the intensity of general symptoms, since the benignity or malignancy of syphilis is a matter of individual constitution; (6) that it cannot be recommended as a local adjuvant, since it is opposed to the principles of sound surgery to remove, by an operation involving loss of tissue and an indelible cicatrix, an accident which always disappears by a process of spontaneous resorption, leaving, as a rule, no posthumous evidence of its existence.

THE PHYSIOLOGICAL ACTION OF THE SALTS OF SODIUM, AMMONIUM, AND POTASSIUM.—Sydney Ringer, having made some experiments upon the frog's heart isolated from the body, reports (*Lancet*, November 4) that the salts of sodium, ammonium, and potassium all arrest the ventricle in diastole, but differ in their mode of action. Potassium salts tend most markedly to arrest or suspend spontaneous contractions, although the heart may be proved contractile by suitable excitation. Ammonium salts show no such tendency: the heart beats often with increased frequency up to the very end,—*i.e.*, as long as contractility persists. Sodium salts are intermediate, but nearer potassium than ammonium. The sodium salts, however, show very little influence upon contractility, while potassium and sodium act with almost equal intensity. After the heart has been influenced by potassium salts, it very rapidly loses its power of responding to faradization. This does not occur at all, or only to a very slight extent, with the other bases. It is held that these effects are carried out in all the compounds of these bases, although they may vary in intensity. A certain relation between potassium, sodium, and ammonium salts is manifest, potassium standing first as most poisonous and threatening in two directions; ammonium coming next, its action being restricted to destruction of contractility; sodium coming last, and ranking as but very slightly poisonous comparatively with either. These experiments, indeed, would make potassium salts some fourteen or fifteen times as poisonous as sodium salts. The bromide and chlorate of sodium are recommended as substitutes for the corresponding potassium compounds in many cases.

PREVIOUS SYMPTOMS IN TYPHOID POINTING TO PERFORATION.—In a communication by Dr. Byers before the British Medical Association several cases are reported of death from perforation from typhoid ulceration of the small intestine. The following clinical features are believed to indicate the appearance of this serious accident:

1. The gravity of the case. Perforation is met with most frequently in the more serious cases of the disease. Liebermeister and Murchison both agree in this: the latter states that "in a large proportion of cases of perforation the previous symptoms are severe, and diarrhœa, as might be expected, is a prominent symptom. This was the case in sixty out of sixty-nine of my patients. In eleven of the sixty the symptoms of the peritonitis were preceded by considerable intestinal hemorrhage, and in many there was an unusual amount of abdominal pain."

2. As regards great tympanites, Sir W. Jenner says, "A single deep slough-formed ulcer will paralyze the action of the bowel and lead to such an accumulation of flatus as produces enormous distention of the abdomen." It is just in such a case that perforation would be likely to occur.

3. Continued elevation of temperature after the third week, in the absence of any complication, usually points to severe intestinal lesion.

4. As to constipation, Sir William Jenner has pointed out that "a single deep ulcer will paralyze the action of the bowel, and so cause constipation."

5. Another symptom is severe tremor.

6. Protracted headache in the early stages is believed by Dr. Broadbent to denote an unusually severe affection of Peyer's patches.

7. Dr. Cayley has directed attention to the value of *tache cérébrale* in enteric fever. He says it often lasts for some time after convalescence has set in, and he regards its persistence as an indication that the intestinal ulcers have not yet healed, and that therefore the patient is still liable to relapses and to the complications attending unhealed ulcers.

HEMORRHAGE FROM THE THROAT AFTER SCARLATINA, REQUIRING LIGATURE OF THE COMMON CAROTID ARTERY.—Before the Clinical Society of London, recently, Mr. A. J. Pepper read the notes of a very interesting case, of a man, 30 years of age, who passed through an attack of scarlet fever and several weeks afterwards had a chill and complained of sore throat. Two days later the uvula was large and translucent, and the soft palate red and swollen. The next day he complained of great difficulty in swallowing, and throbbing of the left side of the throat. Four hemorrhagic patches had appeared at the junction of the hard and soft palates, with a large and gelatinous bleb on the left side. Three hours later, the throat, especially on the left side, became rapidly swollen, accompanied by a feeling of suffocation; soon after he brought up a considerable quantity of blood. The swelling and difficulty of breathing then subsided, and, at the same time, complete aphonia appeared. The alternate enlargement of the neck, hemorrhage, and subsidence of the swelling were repeated several times, until the patient was in a really critical condition: he had lost about forty ounces of blood, and there was no sign of an arrest of the hemorrhage. Considerable bulging of the left side of the pharynx was noticed, and marked dyspnœa and aphonia. At a consul-

tation between Dr. Mahomed, who had the man under his charge, and Mr. Pepper, it was thought dangerous to cut into the post-pharyngeal abscess, and it was decided to tie the left common carotid artery at the upper border of the omo-hyoid muscle: this was completely successful, and the case recovered.

A Device for Drainage of the Bladder for a Case of Obstinate Prostatic Obstruction.—A man, 79 years of age, suffering from enlarged prostate and retention of urine, was relieved by Dr. Wilson Hope by tapping the bladder over the pubes. Various methods were tried in order to maintain the artificial opening, but practical objections were found to all, until the following device was hit upon. On each side of the puncture a piece of adhesive plaster was applied. A soft catheter having a bone tip was then introduced; a circular piece of soft leather was next perforated and slipped over the catheter down to the bone tip; it was kept in position by passing two cross-pieces of silk gelatin plaster, one above and the other below the puncture, stuck down to the upright pieces of resin-plaster. The distal end of the soft catheter being stopped with a plug, it was drawn through a perforated home-made belt, made of bed-tick, to prevent his clothing from rubbing the plaster. This enables the patient also, by drawing in his belly somewhat, to pass a feather behind the bone tip and remove any discharge that may show itself there. The use of this device for six months has given great relief and comfort to the patient.—*British Medical Journal*, November 11.

Symptoms of Poisoning by Iodoform.—In view of professional responsibility attending the use of this agent, and the frequency of its application in gynæcological practice, we deem it proper to insert the following observations resulting from the experiments of Schede at the hospital of Hamburg. The following are the toxic effects observed by Schede:

1st. Increase of temperature, which rises to 104° F. and above, without appreciable cause.

2d. Coincident with the fever a physical depression is manifested,—headache, loss of appetite, the breath bears the odor of iodoform, the pulse is frequent, small, soft, and very compressible. These symptoms cease with the cessation of employing this therapeutic agent.

3d. The frequency of the pulse may rise to 150 to 180 pulsations per minute. Added to the first symptoms of inquietude is a fever, which becomes more and more intense; and if the use of the medicine is not discontinued, death may result. A sign of the gravest portent is the appearance of symptoms of acute meningitis or of depressive phenomena analogous to melancholia.—*Obstetric Gazette.*

Shortening of Round Ligaments for the Cure of some Displacements of the Uterus.—An important paper was read on the above subject on November 23, before the Liverpool Medical Institution, by Dr. William Alexander. Considering the great number of cases of prolapsus of the uterus and retroversion that are practically incurable, Dr. Alexander sought for some other method of treatment that had at least the one merit that it had not already proved its uselessness. After many operations and investigations on the dead body, he decided, finally, to try the effect of cutting down on the inguinal ring, seizing the round ligament, drawing out the "slack," and then, after ascertaining the exact redression of the uterus, fixing the ligament thus tightened in its new situation. The results obtained were very encouraging, and in some earlier instances have, after a lapse of six or eight months, lost none of their encouraging character.—*Medical Press and Circular.*

Successful Extirpation of the Larynx.—A blacksmith, 42 years of age, suffering with epithelioma of the larynx, was operated upon by Mr. Walter Whitehead, and the entire larynx, including the thyroid and cricoid cartilages, and the two upper rings of the trachea were removed. The epiglottis remained intact. Tracheotomy had been performed as a preliminary measure nearly a month before. After the removal of the larynx, the voice was not immediately lost, but for several weeks he could speak in a monotone and could be heard at a distance of six feet; but gradually the sound faded, and eventually disappeared altogether. The patient made a good recovery.—*Lancet*, November 4.

Stramonium-Poisoning successfully treated by Morphia.—A little girl, 10 years of age, having eaten the contents of several green pods of *Datura stramonium*, was seized with symptoms resembling hyoscyamus- or belladonna-poisoning. She was treated with emetics, which failed to act until apomorphia (one-twenty-fourth of a grain) was injected under the skin. Shortly after, free vomiting occurred. The acetate of morphia (one-sixth of a grain) was administered hypodermically, and the symptoms were then greatly relieved, and soon passed away.—*Lancet*, November 4.

Pruritus Ani.—A correspondent writes to the *Cincinnati Lancet and Clinic* that he had for twenty years suffered from that annoying disease, pruritus ani, and had placed himself under the care of various physicians at different times, but without the least benefit. About two years ago, hearing that balsam Peru would relieve that trouble, he tried it, and it gave immediate and entire relief. The disease still clings to him; but when it becomes annoying, a single application of the balsam affords relief. Of all the medicines which he had tried, this is the only one that has had any effect.

MISCELLANY.

THE COLLEGE OF PHYSICIANS held an election for officers January 3, with the following result:

President.—Dr. Alfred Stillé.

Vice-President.—Dr. J. M. Da Costa.

Secretary.—Dr. Richard A. Cleemann.

Treasurer.—Dr. Chas. Stewart Wurts.

Curator.—Dr. Thomas Hewson Bache.

Honorary Librarian.—Dr. J. H. Hutchinson.

Recorder.—Dr. J. Ewing Mears.

Censors.— Drs. Lewis Rodman, Edward Hartshorne, William Goodell, Samuel Lewis.

Councillors.—Drs. S. Weir Mitchell, W. S. Forbes.

Committee on Publication.—Drs. J. M. Da Costa, Jas. H. Hutchinson, Roberts Bartholow.

Library Committee.—Drs. S. Lewis, Walter F. Atlee, I. Minis Hays, S. W. Gross, Morris Longstreth.

Committee on Mütter Museum.—Drs. William Hunt, S. Weir Mitchell, John H. Brinton.

Hall Committee.—Drs. Edward Hartshorne, Lewis Rodman, T. H. Bache, R. H. Alison, W. S. Forbes.

Committee on Lectures.—Drs. Samuel D. Gross, Joseph Leidy, William Goodell, William F. Norris, John H. Packard.

Committee on the Directory for Nurses.—Drs. W. W. Keen, S. Weir Mitchell, A. H. Smith.

THE PHILADELPHIA COUNTY MEDICAL SOCIETY, at the stated meeting held at the hall of the College of Physicians, January 2, held the annual election for officers. The following were elected officers for 1883:

President.—Dr. Wm. M. Welch.

Vice-Presidents.—Drs. Addinell Hewson, W. R. D. Blackwood.

Recording and Reporting Secretary.—Dr. Henry Leffmann.

Corresponding Secretary.—Dr. H. Augustus Wilson.

Assistant Secretary.—Dr. Jos. S. Neff.

Treasurer.—Dr. L. K. Baldwin.

Librarian.—Dr. C. M. Seltzer.

Censor (for five years).—Dr. L. N. Hatfield. For unexpired term of Dr. John G. Stetler, Dr. W. T. Taylor.

Delegates to American Medical Association.—Drs. D. Hayes Agnew, John Ashhurst, H. St. Clair Ash, O. H. Allis, L. K. Baldwin, W. R. D. Blackwood, C. H. Burnett, Robert Burns, F. J. Buck, L. S. Clark, Jas. Collins, J. Solis Cohen, Robt. B. Cruice, H. Y. Evans, A. Frické, Wm. Goodell, S. D. Gross, S. W. Gross, A. D. Hall, N. L. Hatfield, H. Leffmann, R. J. Levis, Jos. Leidy, Chas. K. Mills, Geo. V. McCracken, J. Cheston Morris, A. Nebinger, H. W. Newcomet, Jos. S. Neff, Wm. Pepper, S. D. Risley, J. D. Schoales, A. H. Smith, H. H. Smith, Wm. T. Taylor, L. Turnbull, J. B. Walker, H. Augustus Wilson.

Delegates to Medical Society of the State of Pennsylvania.—Drs. Samuel Ashhurst, B. F. Baer, Henry Beates, E. T. Bruen, R. R. Bunting, J. H. W. Chestnut, R. A. Cleemann, R. G. Curtin, W. R. Cruice, C. W. Dulles, G. B. Dunmire, J. T. Eskridge, Emil Fischer, M. S. French, T. H. Fenton, W. H. H. Githens, Geo. Hamilton, A. G. B. Hinkle, F. P. Henry, Wm. Hunt, J. H. Hutchinson, E. C. Hine, L. B. Hall, J. F. Holt, I. Minis Hays, C. T. Hunter, F. B. Hazel, W. S. Janney, W. W. Keen, J. V. Kelley, P. D. Keyser, S. R. Knight, H. Leaman, Philip Leidy, J. R. Levan, J. R. Ludlow, J. A. McFerran, J. Ewing Mears, A. V. Meigs, J. D. Mercur, E. E. Montgomery, F. Muhlenberg, C. B. Nancrede, G. D. O'Farrell, M. O'Hara, Wm. H. Pancoast, Wm. H. Parish, C. A. Oliver, Wm. G. Porter, A. G. Reed, E. Richardson, J. G. Richardson, T. C. Rich, W. M. L. Rickards, J. B. Roberts, Carl Seiler, C. M. Seltzer, J. V. Shoemaker, A. F. Shelly, J. G. Stetler, W. S. Stewart, J. H. Taylor, C. H. Thomas, S. N. Troth, Ch. Turnbull, G. W. Vogler, J. W. Walk, J. Wm. White, W. M. Welch, D. F. Willard, J. C. Wilson, C. F. Wittig, E. W. Watson, D. F. Woods, F. Woodbury.

Ex-officio Delegates.—Drs. O. H. Allis, Wm. B. Atkinson, Benjamin Lee, John G. Lee, Henry Leffmann, James Tyson.

THE FACULTY OF THE PHILADELPHIA POLYCLINIC AND COLLEGE FOR GRADUATES IN MEDICINE.—The faculty, so far as arranged, of the Polyclinic, is constituted as follows: Dr. Richard J. Levis, operative and clinical surgery; Dr. William Thomson, diseases of the eye; Dr. Thomas G. Morton, general clinical and orthopædic surgery; Dr. Charles H. Burnett, diseases of the ear; Dr. J. Solis Cohen, diseases of the throat and nose; Dr. Henry Leffmann, clinical chemistry and toxicology; Dr. E. O. Shakespeare, microscopy and histology; Dr. Charles K. Mills, diseases of the mind and nervous system; Dr. John B. Roberts, applied anatomy and practical surgery; Dr. James C. Wilson, diseases of the chest and general medicine; Dr. Arthur Van Harlingen, diseases of the skin; Dr. Edward L. Duer, diseases of women and children; Dr. John B. Roberts, Secretary. A general dispensary will be shortly organized in the central part of the city.

NEW CLINIC HALL FOR THE WOMAN'S HOSPITAL.—The ceremonies attending the formal opening of the new clinic hall of the Woman's Medical College were held on the 4th instant, in the presence of nearly three hundred contributors and invited guests. Professor Rachael L. Bodley, representing the board of managers, made an address of welcome, and Mrs. Rachel C. Bunting, treasurer for the board, gave with some detail the sta-

tistics of the work of the hospital and college. Prof. Benjamin B. Wilson, representing the clinical staff, gave his views on clinical instruction for women, and Dr. Anita E. Tyng, physician in charge, reviewed, on behalf of the resident physicians, the work done in the hospital.

Bishop Simpson and Mrs. Caroline H. Dall, of Washington, spoke of the work being accomplished by the college. The new hall is of brick, two stories in height, with a high approach and an ornamented front. It stands on North College Avenue, between the hospital and the college, and faces the northern side of Girard College. The interior is finished in hard woods throughout. The greater part of the space is taken up with the amphitheatre and two stairways. The clinic demonstration room, in the centre of the amphitheatre, is admirably lighted by a large skylight and a row of windows in the north side of the building.

THE NATIONAL ASSOCIATION FOR THE PROTECTION OF THE INSANE will meet in this city in annual session January 25, 1883. The session will be held at the hall of the College of Physicians, the use of which has been tendered for the purpose. Interesting papers are promised from prominent members living in different parts of the country, and the meeting will, no doubt, be largely attended.

CONVENIENT METHODS OF PREPARING KOUMYSS.—Dr. Sakovich, in the *Vratch*, 1882, No. 12, highly recommends a method of preparing koumyss from cow's milk, as it was originally given by Dr. Toropoff. He takes half a champagne-bottle of morning unskimmed milk, and fills up the bottle with pure fountain-water. This mixture is triturated in a mortar with one gramme of best yeast, and again returned into the bottle, with the addition of two tablespoonfuls of finely-powdered sugar. During the first twenty-four hours the bottle is kept uncovered, at the temperature of 14° Réaum. (63.5° Fahr.), then it is hermetically corked and kept in a cold cellar for five days. On the sixth day the koumyss is ready for use, and presents then a white, creamy, slightly gaseous fluid of pleasant taste.—*London Medical Record.*

Koumyss can be easily prepared by any household in the country by the following formula of Dr. Wolf:

Take of grape-sugar half an ounce, and dissolve in four ounces of water; then in about two ounces of milk dissolve twenty grains of compressed yeast (nearly all grocers keep it), or two ounces of fresh brewer's yeast. Mix the two solutions in a large quart champagne-bottle, and fill with good cow's milk to within two inches of the top. Cork and wire; put in a cool place not over 50° F., shaking three times a day. At the end of three or four days the koumyss is ready, and will keep for a week.

Koumyss, made at home, as follows, costs about fifteen cents a quart: Fill a quart champagne-bottle up to the neck with pure milk; add two tablespoonfuls of white sugar, after dissolving the same in a little water over a hot fire; add also a quarter of a two-cent cake of compressed yeast; then tie the cork on the bottle securely, and shake the mixture well. Place in a room of the temperature of 50° to 95° Fahr. for six hours, and finally in the ice-box over night. Drink in such quantities as the stomach may require. It will be well to observe several important injunctions in preparing the koumyss, and they are:

1, To be sure that the milk is pure; 2, that the bottle is sound; 3, that the yeast is fresh; 4, to open the mixture in the morning with great care, on account of its effervescent properties; 5, not to drink it at all if there is any curdle or thickening part resembling cheese, as this indicates that the fermentation has been prolonged beyond the proper time. Make it as you need to use it. The virtue of koumyss is that it refreshes and stimulates, with no after-reaction from its effects.—*Medical Summary.*

AFTER a cruise of a few months in the South Pacific, a French man-of-war was recently found to have specimens of living corals growing upon her hull. The interesting discovery has thrown some light on the question of the rapidity of growth of corals. The evidence tends to show that the vessel, on passing a reef of the Gambier Islands, against which she rubbed, had picked up a young fungia, which adhered to the sheathing, and grew to a diameter of nine inches and a weight of two and one-half pounds in nine weeks.—*Exchange.*

MEDICAL EDUCATION IN THE UNITED STATES.—The Annual Report of the Commissioner of Education for the year 1880 has just been issued by the government, and from it we learn that during the last decade the number of medical institutions and of medical students in the United States has about doubled, and that the number of instructors has nearly trebled.

The number of "regular" schools is put down at 72, with 1131 instructors and 9976 students. The "eclectic" schools number 6, with 65 instructors and 833 students. The "homœopathic" schools number 12, with 188 instructors and 1220 students.—*Medical News.*

DEATH FROM PATENT MEDICINE.—A coroner's jury in England, after deciding that a fatal result from "soothing syrup" was death by misadventure, added the statement in their verdict that "some restriction should be placed on the sale of patent medicines which could be used as poisons." The *Lancet* remarks that it is unfortunate that the official interests of the Chancellor of the Exchequer and the health interests of the public are in conflict in this

matter. This is a subject that might well be investigated by the National Board of Health or some of the State boards. It will not be necessary, however, to go to England for cases of death from the use of nostrums.

SURE CURE FOR CORNS.—A. C., who has tried it, is authority for the following: Take one-fourth cup of strong vinegar; crumb finely into it some bread; let stand half an hour, or until it softens into a good poultice; then apply on retiring at night. In the morning the soreness will be gone, and the corn can be picked out. If the corn is a very obstinate one, it may require two or more applications to effect a cure.—*Druggists' Circular.*

MEETING OF THE ACADEMY OF SURGERY.—The third annual meeting of the Philadelphia Academy of Surgery was held at the hall of the College of Physicians, January 8, 1883, the President, Prof. S. D. Gross, occupying the chair. In the evening Dr. William Hunt delivered the address, in which he especially considered Esmarch and Antisepsis. He gave an interesting, instructive, and entertaining lecture, after which a microscopic exhibition was held in the main meeting-room of the College, and the Mütter Museum was thrown open for the guests, among whom were a number of ladies.

THE *New York Medical Journal* appears in its issue of January 6 as a medical weekly. It seems to us the largest and handsomest journal of its class in America. It is published by D. Appleton & Co., but is edited anonymously.

"CHEMICALLY PURE" TOW.—Two French physicians purify tow so as to make it perfectly white, soft, very elastic, and readily absorbent. They use the method employed to make absorbent cotton. Tow is treated with caustic soda and bleached with hypochlorite of soda, removing the alkali by muriatic acid. —*London Pharm. Journ. and Trans.*

GERMAN APOTHECARIES.—Berlin, with a population of 1,122,385 in 1880, had but 69 apothecary-shops, or one to every 16,266 of the population. This does not, of course, include the drug-stores, which are not kept by licensed apothecaries, while many drugs are also sold in grocery-stores. In Germany, the number of apothecaries being limited by law, each receives a better support, and there is less competition than in this country.

In Leipsic there is one to 10,000 inhabitants; in Cologne, one to 7964; in Hanover, one to 8207; in Breslau, one to 12,423; in Stuttgart, one to 7151; and in Königsberg, one to 9438.—*The Druggist.*

MET ITS DESERTS.—The Holman Pad Company is said to be hopelessly bankrupt.

UNITED STATES PHARMACOPŒIA.

ADDITIONS.

Abstractum Aconiti.
" Belladonnæ.
" Conii.
" Digitalis.
" Hyoscyami.
" Ignatiæ.
" Jalapæ.
" Nucis Vomicæ.
" Podophylli.
" Senegæ.
" Valerianæ.
Acidum Aceticum Glaciale.
" Boricum.
" Hydrobromicum Dilutum.
" Oleicum.
" Phosphoricum.
" Salicylicum.
Æther Aceticus.
Aluminii Hydras.
Ammonii Phosphas.
Amyl Nitris.
Amylum Iodatum.
Antimonii Sulphidum Purificatum.
Apomorphinæ Hydrochloras.
Argenti Iodidum.
" Nitras Dilutus.
Arnicæ Radix.
Auri et Sodii Chloridum.
Benzinum.
Bismuthi Citras.
Bismuthi et Ammonii Citras.
Bryonia.
Caffeina.
Calcii Bromidum.
Calendula.
Calx Sulphurata.
Camphora Monobromata.
Carbonei Bisulphidum.
Caulophyllum.
Ceratum Camphoræ.
Charta Potassii Nitratis.
Chelidonium.
Chinoidinum.
Chrysarobinum.
Cinchonidinæ Sulphas.
Cinchonina.
Codeina.
Collodium Stypticum.
Cupri Acetas.
Decocta.
Elaterinum.
Elixir Aurantii.
Emplastrum Capsici.
" Ichthyocollæ.
Erythroxylon.
Eucalyptus.
Extractum Aconiti Fluidum.
" Aloes Aquosum.
" Arnicæ Radicis.
" Arnicæ Radicis Fluidum.
" Aromaticum Fluidum.
Extractum Aurantii Amari Fluidum.
" BrayeræFluidum.
" Calami Fluidum.
" Cannabis Indicæ Fluidum.
" Capsici Fluidum.
" Castaneæ Flu.
" Chiratæ Fluidum.
" Conii Alcoholicum (fr. fruit).
" Cypripedii Flu.
" Ergotæ.
" Erythroxyli Flu.
" Eucalypti Flu.
" Euonymi Flu.
" Eupatorii Flu.
" Frangulæ Flu.
" Glycyrrhizæ Purum.
" Grindeliæ Flu.
" Guaranæ Flu.
" Hamamelidis Fluidum.
" Iridis.
" Iridis Fluidum.
" Lactucarii Flu.
" Leptandræ.
" Leptandræ Flu.
" Lobeliæ Fluidum.
" Malti.
" Mezerei.
" Nucis Vomicæ Fluidum.
" Pilocarpi Flu.
" Podophylli Flu.
" Quassiæ Flu.
" Rhois Glabræ Fluidum.
" Rosæ Fluidum.
" Rumicis Flu.
" Sanguinariæ Flu.
" Scutellariæ Flu.
" Stramonii Flu.
" Tritici Fluidum.
" Viburni Fluidum.
" Xanthoxyli Flu.
Fel Bovis.
" Inspissatum.
" Purificatum.
Ferri Carbonas Saccharatus.
" Iodidum Saccharatum.
" Oxidum Hydratum cum Magnesia.
" Sulphas Præcipitatus.
" Valerianas.
Frangula.
Glyceritum Amyli.
" Vitelli.
Glycyrrhizinum Ammoniatum.
Grindelia.
Guarana.
Hamamelis.
Hyoscyaminæ Sulphas.

Illicium.
Infusa.
Infusum Brayeræ.
" Cinchonæ.
" Sennæ Comp.
Linimentum Belladonnæ.
" Sinapis Comp.
Liquor Ferri Acetatis.
" Ferri et Quininæ Citratis.
" Pepsini.
" Sodii Silicatis.
Lithii Benzoas.
" Bromidum.
" Salicylas.
Magnesia Ponderosa.
Magnesii Citras Granulatus.
" Sulphis.
Maltum.
Menispermum.
Mistura Ferri et Ammonii Acetatis.
" Magnesiæ et Asafœtidæ.
" Rhei et Sodæ.
Mucilago Cydonii.
Oleatum Hydrargyri.
" Veratrinæ.
Oleum Adipis.
" Aurantii Corticis.
" Aurantii Florum.
" Coriandri.
" Eucalypti.
" Gossypii Seminis.
" Lavandulæ Florum.
" Myrciæ.
" Phosphoratum.
" Picis Liquidæ.
" Santali.
" Sinapis Volatile.
Opii Pulvis.
Opium Denarcotisatum.
Pepsinum Saccharatum.
Petrolatum.
Physostigminæ Salicylas.
Picrotoxinum.
Pilocarpinæ Hydrochloras.
Pilocarpus.
Pilulæ Aloes et Ferri.
" Phosphori.
Piperina.
Pulsatilla.
Pulvis Antimonialis.
" Cretæ Compositus.
" Glycyrrhizæ Comp.
" Morphinæ Comp.
Quillaia.
Quinidinæ Sulphas.
Quinina.
Quininæ Bisulphas.
" Hydrobromas.
" Hydrochloras.
Resina Copaibæ.
Rubus Idæus.
Salicinum.
Sapo Viridis.
Sodii Benzoas.
" Bisulphis.
" Bromidum.
" Chloras.
Sodii Iodidum.
" Pyrophosphas.
" Salicylas.
" Santoninas.
" Sulphocarbolas.
Spiritus Ætheris.
" Aurantii.
" Gaultheriæ.
" Odoratus.
Staphisagria.
Sumbul.
Suppositoria (in Ph. 1870 a chapter-heading).
Syrupus Acidi Hydriodici.
" Althææ.
" Calcii Lactophosphatis.
" Calcis.
" Ferri Bromidi.
" Ferri Quininæ et Strychninæ Phosphatum.
" Hypophosphitum.
" Hypophosphitum cum Ferro.
" Picis Liquidæ.
" Rubi Idæi.
" Sennæ.
Thuja.
Thymol.
Tinctura Arnicæ Radicis.
" Aurantii Dulcis.
" Bryoniæ.
" Calendulæ.
" Chiratæ.
" Cimicifugæ.
" Croci.
Tincturæ Herbarum Recentium.
Tinctura Ferri Acetatis.
" Gelsemii.
" Hydrastis.
" Ignatiæ.
" Ipecacuanhæ et Opii.
" Matico.
" Moschi.
" Physostigmatis.
" Pyrethri.
" Rhei Aromatica.
" " Dulcis.
" Saponis Viridis.
" Sumbul.
" Vanillæ.
Triticum.
Triturationes.
Triturationis Elaterini.
Trochisci Ammonii Chloridi.
" Catechu.
" Krameriæ.
" Sodii Santoninatis.
Unguentum Acidi Gallici.
" Chrysarobini.
" Diachylon.
" Iodoformi.
" Sulphuris Alkalinum.
Ustilago.
Viburnum.
Vinum Album.
Vinum Album Fortius.
" Aromaticum.
" Ferri Amarum.
" " Citratis.
" Rubrum.
Viola Tricolor.
Vitellus.
Zinci Bromidum.
" Iodidum.
" Phosphidum.

NOTES AND QUERIES.

VENESECTION.

To the Editor of the Philadelphia Medical Times:

In the *Medical Record* of December 23, 1882, there is a case reported on the "abstraction of blood from the right heart." I do not know whether I represent a large class of physicians who were horrified as I was while reading the article, but I cannot help expressing my own individual opinion, not for the sake of publicity, but to enter a protest against any such inhuman proceeding. I call it inhuman because the case was that of a *strong* German, *father of a healthy family*, who seemingly died for the want of a lancet in the *proper* place and of other *active medical* treatment.

Is the profession gradually dropping into a routine of experimental practice with their patients, caring little or nothing for human life? or are we to stand up to our godly calling and consider the value of life and in its relation to those depending upon it? Dangerous experiments in diseases so well known and comparatively easy to cure when we apply our duty "by assisting nature in its weak points to overcome them," are cruel, and should be condemned unanimously by the profession.

In support of my protest, and at the same time for an illustrative comparison, I would respectfully call the attention of the reader to an article on "Venesection" in the *Philadelphia Medical Times*, vol. vi. p. 367.

F. Lessing.

Philadelphia, January 1, 1883.

OFFICIAL LIST

OF CHANGES OF STATIONS AND DUTIES OF OFFICERS OF THE MEDICAL DEPARTMENT U.S. ARMY FROM DECEMBER 23, 1882, TO JANUARY 6, 1883.

Perin, Glover, Lieutenant-Colonel and Surgeon.—Granted leave of absence for one month from the 19th instant. S. O. 217, Department of Dakota, December 20, 1882.

Bill, Joseph H., Major and Surgeon.—Will report to the commanding officer, Fort Omaha, Nebraska, for duty. Paragraph 4, S. O. 134, Department of the Platte, December 21, 1882.

McKee, J. C., Surgeon.—To report on or before January 1, 1883, to the commanding officer, Fort Winfield Scott, California, for assignment to duty as post-surgeon. Paragraph 1, S. O. 197, Department of California, December 28, 1882.

Gorgas, W. C., Assistant-Surgeon.—Relieved from the temporary duty to which assigned under Paragraph 4, S. O. 137, Department of Texas, and will report to the commanding officer, Fort Brown, Texas. Paragraph 2, S. O. 140, Department of Texas, December 26, 1882.

Hopkins, William E., Assistant-Surgeon.—Granted leave of absence for two months, to commence January 1, 1883, with permission to apply for an extension of two months. Paragraph 1, S. O. 88, Military Division of the Atlantic, December 28, 1882.

Kilbourne, H. S., Captain and Assistant-Surgeon.—Granted leave of absence for one month, with permission to apply through headquarters, Military Division of the Missouri, for an extension of two months. S. O. 218, Department of Dakota, December 21, 1882.

Reed, Walter, Captain and Assistant-Surgeon.—Relieved from duty as attending surgeon, headquarters, Department of the Platte, and will report in person to the commanding officer, Fort Omaha, Nebraska, for duty. S. O. 134, Department of the Platte, December 21, 1882.

Turrill, H. S., Captain and Assistant-Surgeon.—Upon being relieved from duty at Fort Omaha, Nebraska, will proceed to Fort Fred. Steele, Wyoming, and report to the commanding officer of that post for duty thereat. Paragraph 5, S. O. 134, Department of the Platte, December 21, 1882.